



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

October 5, 1999

MEMORANDUM:

SUBJECT: **Acephate.** List A Reregistration Case 0042. Chemical No. 103301.
Revised Product and Residue Chemistry Chapters for the Reregistration Eligibility Decision. DP Barcode: D259662

FROM: Felecia A. Fort, Chemist
Reregistration Branch 1
Health Effects Division (7509C)

THRU: Whang Phang, Branch Senior Scientist
Reregistration Branch 1
Health Effects Division (7509C)

TO: Monica Alvarez, Chemical Review Manager
Special Review Branch
Special Review and Reregistration Division (7508W)

The revised product and residue chemistry chapters for the Acephate Reregistration Eligibility Decision (RED) contain revisions from and supercedes the previous chapters submitted for acephate (F. Fort, D238151). The data will be incorporated into a Revised Human Health Assessment for Acephate. The following changes have been incorporated.

Revisions to the Product Chemistry Chapter

- **No additional data are required pertaining to the certification of suppliers of beginning materials and the manufacturing processes for the acephate MPs.**
- **The registrant in comments received by HED stated its intention to cancel the 75% FI acephate formulation. Once the formulation is cancelled, no additional data will be required.**

Revisions to the Residue Chemistry Chapter

- **Additional residue data for soybean and soybean aspirated grain fraction are no longer required. Sufficient data have been submitted to support the current uses of acephate on soybean.**
- **The summary of anticipated residues for acephate and its metabolite methamidophos have been revised.**

EXECUTIVE SUMMARY

Product Chemistry

Most pertinent data requirements are satisfied for the Micro-Flo and Valent 97% Ts, except for the following physical chemical properties: OPPTS 830.6304, 830.6314, 830.6316, 830.6317, 830.6320, 830.7050, 830.7370, and 830.7550 for the Micro-Flo 97% T; and OPPTS 830.6320 and 830.7050 for the Valent 97% T. Data for all product-specific product chemistry requirements are outstanding for the Valent 75% FI. Provided that the registrants submit the data required in the attached data summary tables for the 97% Ts and 75% FI, HED has no objections to the reregistration of acephate with respect to product chemistry data requirements.

Residue Chemistry

The chemistry database is essentially complete. Based on the available plant and animal metabolism data, the acephate residues of concern in plant commodities are those that are currently regulated, acephate and its cholinesterase-inhibiting metabolite, methamidophos. The Agency will, however, initiate a change in the residue definition of acephate tolerances for plant commodities in order to eliminate redundancy. We are now recommending that all acephate tolerances be expressed in terms of only acephate *per se* under 40 CFR §180.108. Residues of methamidophos resulting from the metabolism of acephate are more appropriately placed under the tolerance regulations for methamidophos as a pesticide [40 CFR §180.315 (c)]. Refer to "Tolerance Reassessment Summary" section for details of recommendations with respect to organization of tolerances as a result of changes in the tolerance expression.

Additionally, the registrant is advised to add a statement to the label which states that no methamidophos products should be applied after application of acephate since this may result in illegal residues.

Adequate methods are available for data collection and tolerance enforcement for plant and

animal commodities. The 1/94 FDA PESTDATA database (PAM Volume I, Appendix I) indicates that acephate is recovered (>80%) using by Multiresidue Methods Section 302 (Luke Method; Protocol D); recovery of methamidophos using the same method is variable.

Pending label amendments for some crops, adequate field trial data are available to reassess the established tolerances for residues of acephate *per se* in/on following plant commodities, **as defined**: beans (succulent and dry form); Brussels sprouts; cauliflower; celery; cottonseed; cranberries; lettuce (head); peanuts; peppers and soybean. The available data suggest that the tolerance level for cottonseed can be lowered.

Adequate poultry feeding data are available to reassess the established tolerances for residues of acephate *per se* in eggs and the fat, meat, and meat byproducts of poultry. No adjustments in the established tolerance levels of these commodities are needed.

The available ruminant feeding data suggest that the established tolerances for residues of acephate *per se* in milk and the fat, meat, and mbyp of cattle, goats, hogs, horses are adequate. However, actual reassessment of tolerances will be made when the requested residue data for all major livestock feed items have been submitted and following re-calculation of maximum dietary burden.

cc: Reviewer(F. Fort), Reg. Std. File, RF, SF, Circ.
RDI: ExpoTeam 4/22/98: ChemSac: 4/22 /98 WPhang:5/7/98
7509C:RRB1:CM#2:Rm812A:305-7478:FAFort/FF:4/21/98
Disk8:acephate_r.doc

ACEPHATE

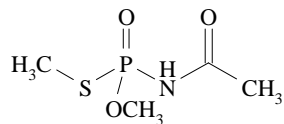
REREGISTRATION ELIGIBILITY DECISION:

PRODUCT CHEMISTRY CONSIDERATIONS

Shaughnessy No. 103301; Case No. 0042

DESCRIPTION OF CHEMICAL

Acephate [O,S-dimethyl acetylphosphoramidothioate] is a systemic/contact organophosphate insecticide used for control of specific insects on a variety of field, fruit, and vegetable crops.



Empirical Formula:	C ₄ H ₁₀ NO ₃ PS
Molecular Weight:	183.16
CAS Registry No.:	30560-19-1
Shaughnessy No.:	103301

IDENTIFICATION OF ACTIVE INGREDIENT

Acephate is a colorless to white solid with a melting point of 81-91 C. Acephate is highly soluble in water (79.0 g/100 mL), acetone (151 g/100 mL), and ethanol (>100 g/100 mL), and is soluble in methanol (57.5 g/100 mL), ethyl acetate (35.0 g/100 mL), benzene (16.0 g/100 mL), and hexane (<0.1 g/100 mL) at 25 C.

MANUFACTURING-USE PRODUCTS

A search of the Reference Files System (REFS) conducted 1/29/97 identified four acephate manufacturing-use products (MPs) registered under Shaughnessy No. 103301. The registered acephate MPs are listed in Table 1; only these products are subject to a reregistration eligibility decision.

Table 1. Registered Manufacturing-use Products of Acephate.

Formulation	EPA Reg. No.	Registrant
97% T	51036-246	Micro-Flo Company
97% T	59639-41	Valent U.S.A. Corporation
75% FI	59639-42	
97% T ¹	64014-1	Florida Silvics Incorporated

¹ Repackaged from an EPA registered product.

REGULATORY BACKGROUND

Additional generic and product-specific product chemistry data were required in the Acephate Reregistration Standard dated 1/28/82 and the Addendum to the Reregistration Standard dated 10/5/84, and all updated product chemistry data were required in the Acephate Guidance Document dated 9/87; however, all products for which data were required were canceled prior to issuance of the Acephate Reregistration Standard Update dated 1/29/92. The Update summarized the product chemistry database in support of reregistration of acephate and required additional product chemistry data concerning all data GLNs for the Valent acephate MPs. Both the Micro-Flo 97% T and the Florida Silvics 97% T were registered following issuance of the Update; product chemistry data requirements for the Florida Silvics 97% T will be satisfied by data submitted for the technical source product.

The available data for the Micro-Flo 97% T were reviewed by the Registration Division (RD) in connection with product registration. Data submitted by Valent in support of a new TGAI source for the 97% T were also reviewed by RD. It was determined that the new and original TGAI sources for the 97% T are sufficiently similar to permit translation of physical/chemical data.

The current status of the product chemistry data requirements for the acephate MPs is presented in the attached data summary tables. Refer to these tables for a listing of the outstanding product chemistry data requirements.

CONCLUSIONS

Most pertinent data requirements are satisfied for the Micro-Flo and Valent 97% Ts, except for the following physical chemical properties: OPPTS 830.6304, 830.6314, 830.6316, 830.6317, 830.6320, 830.7050, 830.7370, and 830.7550 for the Micro-Flo 97% T; and OPPTS 830.6320 and 830.7050 for the Valent 97% T. Data for all product-specific product chemistry requirements are outstanding for the Valent 75% FI. Provided that the registrants submit the data required in the attached data summary tables for the 97% Ts and 75% FI, HED has no objections to the reregistration of acephate with respect to product chemistry data requirements.

AGENCY MEMORANDA CITED IN THIS DOCUMENT

CBRS No(s).: None; RD Memorandum
DP Barcode(s): D217858
Subject: Registration Division/Registration Support Branch/Product Chemistry Review Section Transmittal/Product Chemistry Review of a Registration Action for a Technical Grade Active Ingredient, Action Code 165 New Product/Non-Food/Feed Uses: Micro-Flo Company, Acephate Technical, EPA File Symbol 51036-EUA.
From: S. Malak
To: PM: R. Forrest, CRM: M. Mautz
Dated: 9/28/95
MRID(s): 43645001-43645003

CBRS No(s).: None; RD Memorandum
DP Barcode(s): D226561
Subject: Registration Division/Registration Support Branch/Product Chemistry Review Section Transmittal/Product Chemistry Review of a Registration Action for a Technical Grade Active Ingredient/Action Code 347 New Active Source: Valent U.S.A. Corporation, EPA Reg. No. 59639-41.
From: S. Malak
To: PM: R. Forrest, CRM: M. Mautz
Dated: 1/16/97
MRID(s): 44005101-44005103

PRODUCT CHEMISTRY CITATIONS

Bibliographic citations include only MRIDs containing data which fulfill data requirements.

References (cited):

40322801 Pack, D. (1983) n-Octanol/Water Partition Coefficient of Acephate: Lab Project ID: MEF-0054/8711449. Unpublished study prepared by Chevron Chemical Co. 8 p.

40390601 Thornberry, N. (1987) Physical and Chemical Characteristics: Orthene Technical: Lab. Proj. ID. 8714296. Unpublished compilation prepared by Chevron Chemical Co. 21 p.

40645901 Reynolds, R. (1988) Vapor Pressure Study for Acephate (RE 12420) by the Gas Saturation Method: Laboratory Project ID: 8809195. Unpublished study prepared by Chevron Chemical Co. 15 p.

43645001 Gaskins, M. (1995) Acephate Technical: Product Identity and Composition, Description of Manufacturing Process and Discussion of Impurities: Lab Project Numbers: 01-6666-003. Unpublished study prepared by Micro Flo Co. 49 p.

43645002 Gaskins, M. (1995) Acephate Technical: Certification of Ingredient Limits, Preliminary Analysis and Analytical Methods: Lab Project Numbers: MI-01-6666-003: GLP-01-14-03. Unpublished study prepared by Micro Flo Co. 47 p.

43645003 Geno, P. (1995) Acephate Technical Grade Active Ingredient: Physical and Chemical Characteristics: Final Report: Lab Project Numbers: 01-6666-003-2: GLP-01-14-01: GLP-01-14-05. Unpublished study prepared by Southwest Research Institute. 46 p.

44005101 Ha, S. (1996) Product Identity and Disclosure of Ingredients for Acephate Technical, Description of Beginning Materials and Manufacturing Process for Acephate Technical, and Discussion of the Formation of Impurities: Lab Project Number: ACPT-96-61A: ACPT-96-61B: ACPT-96-61. Unpublished study prepared by Valent Technical Center. 122 p.

44005102 Ha, S. (1996) Analysis of Acephate Technical by Gas Chromatography, Liquid Chromatography and Mass Spectrometry, Certification of Ingredient Limits of Acephate Technical, and Determination of Acephate and Impurities in Acephate Technical: Lab Project Number: V-11285: VAM-07G-001: VAM-07F-001. Unpublished study prepared by Valent Technical Center. 228 p.

44005103 Ha, S. (1996) Physical and Chemical Characteristics of Acephate Technical: Lab Project Number: V-95-11285B: VL-027-00: VL-005-04. Unpublished study prepared by Valent Technical Center. 55 p.

Case No. 0042
 Chemical No. 103301
 Case Name: Acephate
 Registrant: Micro-Flo Company
 Product(s): 97% T (EPA Reg. No. 51036-246)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ¹	MRID Number ²
830.1550	Product Identity and Disclosure of Ingredients	Y	43645001, CSF 3/29/96
830.1600	Starting Materials and Manufacturing Process	Y	43645001
830.1620			
830.1650			
830.1670	Discussion of Formation of Impurities	Y	43645001
830.1700	Preliminary Analysis	Y	43645002
830.1750	Certification of Ingredient Limits	Y	43645002, CSF 3/29/96
830.1800	Analytical Methods to Verify the Certified Limits	Y	43645002
830.6302	Color	Y	43645003
830.6303	Physical State	Y	43645003
830.6304	Odor	N	
830.6313	Stability	Y	43645003
830.6314	Oxidation/Reduction	N	
830.6315	Flammability	N/A ³	
830.6316	Explosibility	N	
830.6317	Storage Stability	N	
830.6319	Miscibility	N/A ³	
830.6320	Corrosion Characteristics	N	
830.7000	pH	Y	43645003
830.7050	UV/Visible Absorption	N ⁴	
830.7100	Viscosity	N/A ³	
830.7200	Melting Point/Melting Range	Y	43645003
830.7220	Boiling Point/Boiling Range	N/A ³	
830.7300	Density/Relative Density/Bulk Density	Y	43645003
830.7370	Dissociation Constant in Water	N	
830.7550	Partition Coefficient (Octanol/Water)	N	
830.7560			
830.7570			
830.7840	Solubility	Y	43645003
830.7860			
830.7950	Vapor Pressure	Y	43645003

¹ Y = Yes; N = No; N/A = Not Applicable.

² All references were reviewed in a Registration Division Memorandum dated 9/28/95 by S. Malak, except for the CSF, which was obtained from the product jacket.

³ Data are not required because the TGAI/MP is a solid at room temperature.

⁴ The OPPTS Series 830, Product Properties Test Guidelines require data pertaining to UV/visible absorption for the PAI.

Case No. 0042
 Chemical No. 103301
 Case Name: Acephate

Registrant: Valent U.S.A. Corporation
Product(s): 97% T (EPA Reg. No. 59639-41)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ¹	MRID Number ²
830.1550	Product Identity and Disclosure of Ingredients	Y	44005101, CSF 4/19/96
830.1600	Starting Materials and Manufacturing Process	Y	44005101
830.1620			
830.1650			
830.1670	Discussion of Formation of Impurities	Y	44005101
830.1700	Preliminary Analysis	Y	44005102
830.1750	Certification of Ingredient Limits	Y	44005102, CSF 4/19/96
830.1800	Analytical Methods to Verify the Certified Limits	Y	44005102
830.6302	Color	Y	44005103
830.6303	Physical State	Y	44005103
830.6304	Odor	Y	44005103
830.6313	Stability	Y	44005103
830.6314	Oxidation/Reduction	Y	40390601
830.6315	Flammability	N/A ³	
830.6316	Explosibility	Y	40390601
830.6317	Storage Stability	Y	40390601
830.6319	Miscibility	N/A ³	
830.6320	Corrosion Characteristics	N ⁴	40390601
830.7000	pH	Y	44005103
830.7050	UV/Visible Absorption	N ⁵	
830.7100	Viscosity	N/A ³	
830.7200	Melting Point/Melting Range	Y	44005103
830.7220	Boiling Point/Boiling Range	N/A ³	
830.7300	Density/Relative Density/Bulk Density	Y	44005103
830.7370	Dissociation Constant in Water	Y	40390601
830.7550	Partition Coefficient (Octanol/Water)	Y	40322801
830.7560			
830.7570			
830.7840	Solubility	Y	40390601
830.7860			
830.7950	Vapor Pressure	Y	40645901

¹ Y = Yes; N = No; N/A = Not Applicable.

² **Bolded** references were reviewed in a Registration Division (RD) Memorandum dated 1/16/97 by S. Malak in connection with a change in the TGAI source; remaining references were reviewed in the Acephate Reregistration Standard Update dated 1/29/92 and reflect the original TGAI source. RD has determined that the new and original TGAI sources are sufficiently similar to permit translation of physical/chemical data.

³ Data are not required because the TGAI/MP is a solid at room temperature.

⁴ Corrosion data are required to support the statement that the technical product is non-corrosive.

⁵ The OPPTS Series 830, Product Properties Test Guidelines require data pertaining to UV/visible absorption for the PAI.
Case No. 0042
Chemical No. 103301
Case Name: Acephate

Registrant: Valent U.S.A. Corporation
Product(s): 75% FI (EPA Reg. No. 59639-42)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ¹	MRID Number
830.1550	Product Identity and Disclosure of Ingredients	N	
830.1600	Starting Materials and Manufacturing Process	N	
830.1620			
830.1650			
830.1670	Discussion of Formation of Impurities	N	
830.1700	Preliminary Analysis	N/A ²	
830.1750	Certification of Ingredient Limits	N	
830.1800	Analytical Methods to Verify the Certified Limits	N	
830.6302	Color	N	
830.6303	Physical State	N	
830.6304	Odor	N	
830.6313	Stability	N/A ²	
830.6314	Oxidation/Reduction	N	
830.6315	Flammability	N	
830.6316	Explosibility	N	
830.6317	Storage Stability	N	
830.6319	Miscibility	N	
830.6320	Corrosion Characteristics	N	
830.7000	pH	N	
830.7050	UV/Visible Absorption	N/A ²	
830.7100	Viscosity	N	
830.7200	Melting Point/Melting Range	N/A ²	
830.7220	Boiling Point/Boiling Range	N/A ²	
830.7300	Density/Relative Density/Bulk Density	N	
830.7370	Dissociation Constant in Water	N/A ²	
830.7550	Partition Coefficient (Octanol/Water)	N/A ²	
830.7560			
830.7570			
830.7840	Solubility	N/A ²	
830.7860			
830.7950	Vapor Pressure	N/A ²	

¹ Y = Yes; N = No; N/A = Not Applicable. No data are available for this product reflecting the new TGAI source.

² TGAI/PAI data requirements will be satisfied by data for the technical source product.

Case No. 0042
 Chemical No. 103301
 Case Name: Acephate
 Registrant: Florida Silvics Incorporated
 Product(s): 97% T (EPA Reg. No. 64014-1)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? ¹	MRID Number
830.1550	Product Identity and Disclosure of Ingredients	Y ²	CSF 8/5/96 ³
830.1600	Starting Materials and Manufacturing Process	N/A	
830.1620			
830.1650			
830.1670	Discussion of Formation of Impurities	N/A	
830.1700	Preliminary Analysis	N/A	
830.1750	Certification of Ingredient Limits	Y ²	CSF 8/5/96 ³
830.1800	Analytical Methods to Verify the Certified Limits	N/A	
830.6302	Color	N/A	
830.6303	Physical State	N/A	
830.6304	Odor	N/A	
830.6313	Stability	N/A	
830.6314	Oxidation/Reduction	N/A	
830.6315	Flammability	N/A	
830.6316	Explosibility	N/A	
830.6317	Storage Stability	N/A	
830.6319	Miscibility	N/A	
830.6320	Corrosion Characteristics	N/A	
830.7000	pH	N/A	
830.7050	UV/Visible Absorption	N/A	
830.7100	Viscosity	N/A	
830.7200	Melting Point/Melting Range	N/A	
830.7220	Boiling Point/Boiling Range	N/A	
830.7300	Density/Relative Density/Bulk Density	N/A	
830.7370	Dissociation Constant in Water	N/A	
830.7550	Partition Coefficient (Octanol/Water)	N/A	
830.7560			
830.7570			
830.7840	Solubility	N/A	
830.7860			
830.7950	Vapor Pressure	N/A	

¹ Y = Yes; N = No; N/A = Not Applicable. This product is repackaged from an EPA-registered product; all product chemistry data requirements will be satisfied by data for the technical source product.

² The CSF should be amended to reflect the actual nominal concentration and upper and lower certified limits of the active ingredient in the product.

³ The CSF was obtained from the product jacket.

ACEPHATE

REREGISTRATION ELIGIBILITY DECISION

RESIDUE CHEMISTRY CONSIDERATIONS

Shaughnessy No. 103301; Case 0042

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ACEPHATE

REREGISTRATION ELIGIBILITY DECISION

RESIDUE CHEMISTRY CONSIDERATIONS

Shaughnessy No. 103301; Case 0042

INTRODUCTION

Acephate [O,S-dimethyl acetylphosphoramidothioate] is a List A pesticide active ingredient. It is a systemic/contact organophosphate insecticide manufactured in the United States by Valent U.S.A. Corporation under the trade name Orthene®. A search of the Agency's Reference Files System (REFS) indicated that acephate is currently registered for food/feed uses on a variety of field, fruit, and vegetable crops as well as on food-handling establishments for the control of insect pests. The granular (G) and soluble concentrate (SC) are the acephate formulation classes registered for use on these sites. These formulations are typically applied to food/feed crops as foliar, soil, and/or seed treatments using ground or aerial equipment and at food-handling establishments as spot or crack-and-crevice treatments.

REGULATORY BACKGROUND

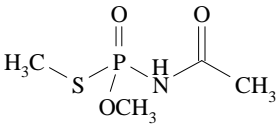
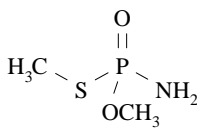
Acephate was the subject of a Reregistration Standard Guidance Document dated 9/87; the Residue Chemistry Science Chapter of the Guidance Document was dated 1/28/82. Subsequent addenda to the Acephate Reregistration Standard were issued 3/9/82, 4/4/82, 10/5/84, and 9/23/85. The Acephate Residue Chemistry Reregistration Standard Update was completed 8/8/91. These documents summarized the status of residue chemistry data requirements with respect to the reregistration of acephate.

The Addendum to the Acephate Reregistration Standard dated 9/23/85 required registrants to provide additional data for residues of methylthioacetate (MTA), an impurity in the acephate manufacturing process. Based on subsequent toxicology and product chemistry data submissions, TOX Branch has determined that the potential MTA residues are not of sufficient magnitude to be of concern; therefore, the data requested in the Addendum to the Acephate Reregistration Standard dated 9/23/85 are no longer required.

Tolerances have been established for the combined residues of acephate and its metabolite methamidophos in/on various raw agricultural and processed plant and animal commodities; see Figure 1 for chemical structures and full chemical names of acephate and methamidophos. The established tolerances ranged from 0.02 ppm for food items as a result of use of acephate in food-handling establishments to 15 ppm for grass forage and hay and mint hay [40 CFR §180.108(a) and (b), §185.100, and §186.100]. Tolerances for several commodities (beans, Brussels sprouts, cauliflower, celery, cranberries, lettuce, mint hay, and peppers) include limits on residues of methamidophos. Adequate methods are available the enforcement of established tolerances. The Pesticide Analytical Manual (PAM) Volume II lists Methods I and II, GLC methods employing thermionic detection, as

well as Method A, a confirmatory TLC method. Separate Codex MRLs have been established for residues of acephate *per se* and methamidophos *per se*.

Figure 1. Chemical Names and Structures of Acephate Residues of Concern in Plant and Animal Commodities.

Common Name Chemical Name	Chemical Structure	Common Name Chemical Name	Chemical Structure
Acephate Shaughnessy No. 103301; Case 0042		Methamidophos Shaughnessy No. 101201; Case No. 0043	
O,S-dimethyl acetylphosphoramidothioate		O,S-dimethyl phosphoramidothioate	

The Food Quality Protection Act (FQPA) of 1996 has amended and strengthened the standard for establishing tolerances under the Federal Food, Drug, and Cosmetic Act (FFDCA). The Office of Pesticide Programs (OPP) is still assessing the full impact of this change in the law, and plans to issue guidelines concerning the establishment and reassessment of tolerances under the amended statute. All future tolerance petitions as well as reassessment of established tolerances must meet the requirements of the FFDCA as amended by the FQPA. OPP may require additional data to determine if the terms of the amended statute are met.

The Agency has recently updated the list of raw agricultural and processed commodities and feedstuffs derived from crops (Table 1, OPPTS 860.1000). As a result of changes to Table 1, additional acephate residue data are now required for some commodities; these data requirements have been incorporated into this document. These new data requirements will be imposed at the issuance of the Acephate RED but should not impinge on the reregistration eligibility decisions for acephate. The need for revisions to dietary exposure/risk assessments will be determined upon receipt of the required residue chemistry data.

SUMMARY OF SCIENCE FINDINGS

GLN 860.1200: Directions for Use

A REFS search, conducted on 1/29/97, identified 13 active acephate end-use products (EPs) registered to Valent. The EPs, registered under FIFRA Section 3, as well as the associated Special Local Need (SLN) products, registered under FIFRA Section 24(c), are listed in Table A1.

Table A1. Acephate EPs with Food/Feed Uses Registered to Valent.

EPA Reg. No.	Label Acceptance Date ¹	Formulation	Product Name
59639-26 ²	10/17/95 (6/96)	75% SC/S	Orthene® 75S Soluble Powder
59639-27	12/13/90 (12/90)	75% SC/S	Orthene® Tobacco Insect Spray
59639-29	5/24/94 (6/96)	80% SC/S	Orthene® 80 Seed Protectant
59639-30	3/26/90 (3/90)	97% SC/L	Orthene® Specialty Concentrate
59639-31	11/23/93 (11/93)	96% SC/S	Orthene® PCO Formula II
59639-33 ³	10/19/93 (8/96)	90% SC/S ⁴	Orthene® 90 S
59639-75 ⁵	10/13/93 (10/93)	15% G	Payload™ 15 Granular
59639-85	12/13/93 (12/95)	80% SC/S ⁴	Orthene® 80 WSP Seed Protectant
59639-86 ⁶	4/19/94 (4/94)	90% SC/S ⁴	Orthene® 90 WSP
59639-87 ⁷	(1/97)	15% G	Pinpoint 15 Granular
59639-88	7/22/94 (7/94)	75% SC/S ⁴	Orthene® Turf, Tree & Ornamental WSP
59639-89 ⁸	12/21/95 (12/95)	75% SC/S ⁴	Orthene® 75 WSP

¹ Date of the most recently EPA-approved label found by Dynamac reviewer in the product jacket. Date in parentheses is the label approval date according to a REFS search conducted on 1/29/97.

² Including SLN Nos. AL940001, AR810050, FL890016, FL890017, FL890018, FL890019, FL890022, FL910011, FL940002, GA880004, GA940001, GA960002, HI910011, MA960002, MS820023, MS890011, NC870006, NC930003, NJ960004, NM800010, OK800012, OK810020, OK890004, OK890005, OR890015, OR930013, OR930014, OR970003, OR970007, PA930004, PR910002, TN930002, TX790014, TX810035, TX830022, TX890003, TX900001, VA870007, VA920003, VA930005, WA810064, WA890026, WA950035, WA960024, and WI960007.

³ Including SLN Nos. AR890005, AR890008, LA890014, OK890002, TX910003, TX940001, and WA890026.

⁴ REFs coded this product as a wettable powder formulation; however, an examination of the product label indicates that the appropriate formulation classification for the product is soluble concentrate (SC).

⁵ Including SLN No. AZ940002, NM930001, NM930002, OK950002, and TX950003.

⁶ Including SLN No. TX960003.

⁷ Including SLN Nos. AL960001, FL960007, LA950011, MS960016, and SC960001.

⁸ Including SLN Nos. MA960003, NJ960005, WA960025, and WI960008.

Food uses of acephate: For the purpose of generating this Residue Chemistry Science Chapter, HED examined the registered food/feed use patterns and reevaluated the available residue chemistry database for adequacy in supporting these use patterns. A comprehensive summary of acephate food/feed use patterns, based on the product labels registered to Valent U.S.A., is presented in Table A2.

Several label amendments are required to support uses of acephate on several crops. Details of the required label amendments are presented in the endnote for GLN 860.1200 (Directions for Use) in Table B.

Non-food uses of acephate: A comprehensive summary of acephate non-food/non-feed use patterns, based on the product labels registered to Valent, is presented in Table A3. The registered uses of acephate under Section 24(c) on the following sites, typically considered food use sites, have been determined to be non-food uses based on an examination of SLN labels: Bermudagrass (seed crop); carrots (seed crop); citrus fruits (non-bearing); coffee (non-bearing); onion (seed crop); potatoes (greenhouse-grown pre-nuclear potatoes); and radish (seed crop). As a result of the non-food use

classification, residue chemistry data are not required and tolerances need not be proposed for the reregistration of these Section 24(c) uses. Label amendments are required for certain SLN registrations before uses may be fully classified as non-food. Details of the required label amendments are presented in the endnote for GLN 860.1200 (Directions for Use) in Table B.

A tabular summary of the residue chemistry science assessments for reregistration of acephate is presented in Table B. The status of reregistration requirements for each guideline topic listed in Table B is based on the use patterns registered by the basic producer, Valent U.S.A. Corporation. When end-use product DCIs are developed (e.g., at issuance of the RED), RD should require that all end-use product labels (e.g., MAI labels, SLNs, and products subject to the generic data exemption) be amended such that they are consistent with the basic producer labels.

GLN 860.1300: Nature of the Residue - Plants

The reregistration requirements for plant metabolism are partially fulfilled. Studies depicting the qualitative nature of the residue in three dissimilar crops (beans, cotton, and lettuce) have been submitted and deemed deficient but upgradeable. To upgrade the bean and lettuce metabolism studies, the registrant must submit information regarding the dates of analysis of samples. To upgrade the cotton metabolism study, the registrant must supply the dates of analysis of samples, and provide data indicating that the metabolite profile in cotton commodities did not change over the intervals for which samples were stored.

Based on the available plant metabolism data, the acephate residues of concern in plant commodities are those that are currently regulated (see Figure 1): acephate and methamidophos. The Agency will, however, initiate a change in the residue definition of acephate tolerances for plant commodities in order to eliminate redundancy. We are now recommending that all acephate tolerances be expressed in terms of only acephate *per se* under 40 CFR §180.108. Residues of methamidophos resulting from the metabolism of acephate are more appropriately placed under the tolerance regulations for methamidophos as a pesticide [40 CFR §180.315 (c)]. Refer to "Tolerance Reassessment Summary" section for details of recommendations with respect to organization of tolerances as a result of changes in the tolerance expression.

GLN 860.1300: Nature of the Residue - Animals

The reregistration requirements for animal metabolism are partially fulfilled. An acceptable goat metabolism study has been evaluated. The submitted poultry metabolism study was deemed deficient but upgradeable. To upgrade the poultry metabolism study, the registrant must submit data demonstrating that the metabolic profile of radioactive residues in poultry muscle did not change over the duration of the study.

Based on the available animal metabolism data, the acephate residues of concern in animal commodities are those that are currently regulated (see Figure 1): acephate and methamidophos.

Refer to "Tolerance Reassessment Summary" section for details of recommendations with respect to organization of tolerances as a result of changes in the tolerance expression.

GLN 860.1340: Residue Analytical Methods

Adequate methods are available for data collection and tolerance enforcement for plant and animal commodities. For tolerance enforcement, the Pesticide Analytical Manual (PAM) Vol. II lists two GLC methods (designated as Methods I and II) with thermionic detection for the determination of acephate (LOD = 0.01 ppm) and methamidophos (LOD = 0.04 ppm) residues in/on plant and animal commodities. PAM Vol. II also lists a TLC method (designated as Method A) as a confirmatory method. Adequate radiovalidation data for the enforcement method using samples from the plant and animal metabolism studies have been submitted and evaluated. The enforcement method or modifications of the enforcement method were used for data collection purposes.

GLN 860.1360: Multiresidue Methods

The 1/94 FDA PESTDATA database (PAM Volume I, Appendix I) indicates that acephate is recovered (>80%) using by Multiresidue Methods Section 302 (Luke Method; Protocol D); recovery of methamidophos using the same method is variable.

GLN 860.1380: Storage Stability Data

The reregistration requirements for storage stability data are fulfilled. The available storage stability data indicate that the combined residues of acephate and methamidophos are stable under frozen storage conditions (-20 C) in/on the following commodities (storage interval in parentheses): eggs (~6 months); milk (~7 months); kidney, cow (~6 months); muscle, cow (~7 months); beans, pinto (~15 months); beans, snap (~15 months); Brussels sprouts (~9 months); celery (~12 months); cottonseed (~10 months); grass, Bermuda, forage and hay (~2 months); grass, pasture, forage (~9 months); lettuce (~17 months); peas, pigeon (~14 months); peppers, bell (~13 months); rice grain and straw (~17 months); peanut (~14 months) peanut oil (~ 4 months); green tobacco (~ 14 months); soybean oil (~ 15 months); corn meal (~ 15 months) and spearmint, fresh and spent hay (~ 2 months).

The overall database supports the reregistration of acephate on supported commodities. No additional storage stability data are required.

GLN 860.1500: Crop Field Trials

The reregistration requirements for magnitude of the residue in/on the following raw agricultural commodities (RACs) have been fulfilled: beans (succulent and dry), Brussels sprouts, cauliflower, celery, cottonseed, cranberries, lettuce (head), macadamia nuts, peanuts, peppers and soybean. Overall, adequate field trial data depicting acephate residues of concern following treatments

according to the maximum registered use patterns have been submitted for the RACs listed above or have been translated where appropriate. Label revisions are required for some crops in order to reflect current Agency policies and/or to reflect the parameters of use patterns for which field trial data are available. Details of the required label amendments are presented in the endnotes for GLN 860.1200 (Directions for Use) of Table B. Refer to the "Tolerance Reassessment Summary" section for recommendations with respect to established tolerance levels.

No additional data are required for mint tops (leaves and stems). However, information is required to explain inconsistencies in the results of field residue studies. Data reviewed in the Acephate Update reported tolerance-exceeding residues in/on mint hay whereas, data from more recent submissions indicate that the combined residues of acephate and methamidophos were below the established tolerance following applications according to the maximum registered use patterns.

Field residue data and tolerances for cowpea forage and hay will not be required provided labels are amended such that acephate use on beans specifically exclude cowpeas.

Additional field trial data are required for cotton gin byproducts. Refer to Table B for details of reregistration requirements for this commodity.

GLN 860.1520: Processed Food/Feed

The reregistration requirements for magnitude of the residue in the processed commodities of cottonseed, mint, soybean, and peanuts have been fulfilled. The previously requested bean processing data are no longer necessary since the Agency has determined that bean cannery residue is not a significant livestock feed item (Table 1, OPPTS GLN 860.1000).

GLN 860.1480: Meat, Milk, Poultry, Eggs

The reregistration requirements for magnitude of the residue in meat, milk, poultry, and eggs are tentatively fulfilled. Acceptable ruminant and poultry feeding studies, depicting acephate residues of concern have been submitted and evaluated. The maximum theoretical dietary burden of acephate to beef and dairy cattle is tentatively calculated to be 3.49 ppm, based on a diet consisting of 15% soybean (tolerance of 4 ppm, 92% dry matter), 20% soybean hulls (tolerance of 8 ppm, 90% dry matter), 15% cottonseed meal (1 ppm tolerance, 89% dry matter); 20% cottonseed hull (1 ppm tolerance, 90% dry matter); 15% soybean seed (1 ppm tolerance, 89% dry matter); 20% cotton gin byproduct (3 ppm based on maximum theoretical concentration factor of 6X, 89% dry matter); dietary burden calculations are tentative because data remain outstanding for cotton gin byproducts, a major livestock feed item.

An adequate dairy cattle feeding study was reviewed in the Acephate Registration Standard Update. The study reflected dosing at 15, 30, and 60 ppm acephate and 3, 6, and 12 ppm methamidophos in the diet for 28 days. Residues of acephate in milk were <0.01- 0.22 ppm at the 15 ppm dosing level and 0.04 - 0.45 ppm at the 30-ppm dosing level. At the 15-ppm dosing level, residues of acephate were 0.05-0.10 ppm in fat, 0.19-0.26 ppm in kidney, 0.02 ppm in liver, and 0.07-0.12 ppm in muscle.

At the 30-ppm dosing level, residues of acephate were 0.09-0.15 ppm in fat, 0.34 and 0.40 ppm in kidney, 0.03 and 0.04 ppm in liver, and 0.13-0.21 ppm in muscle. Residues of methamidophos are not expected in meat, or milk. Based on the results of this study, HED concludes that the established tolerances (currently expressed in terms of the combined residues of acephate and methamidophos) for milk and the fat, meat, and mbyp of cattle, goats, hogs, horses, and sheep are adequate. The tolerance is tentative and may increase following resolution of data deficiencies for cotton gin byproducts which are major livestock feed items.

The maximum theoretical dietary burden of acephate to poultry is tentatively calculated to be 0.25 ppm based on a diet consisting of 20% cottonseed meal and 25% peanut meal; the dietary burden calculation is tentative because data remain outstanding for peanuts. The Acephate Reregistration Standard concluded that tolerances for poultry commodities would not be exceeded if the poultry dietary burden was <3 ppm. Because the dietary burden of acephate to poultry, based on the currently registered uses, is less than 3 ppm, HED concludes that the established tolerances for poultry commodities are adequate.

GLN 860.1400: Water, Fish, and Irrigated Crops

Acephate is presently not registered for direct use on water and aquatic food and feed crops; therefore, no residue chemistry data are required under these guideline topics.

GLN 860.1460: Food Handling

Acephate is presently registered for use in food-handling establishments and the reregistration requirements for this guideline topic are fulfilled. Adequate data are available to reassess the established tolerance for acephate residues of concern in all food items exposed in food-handling establishments.

GLN 860.1850 and 860.1900: Confined/Field Accumulation in Rotational Crops

Data pertaining to confined rotational crops (MRID 405048-16) have been submitted and were found to be deficient because no raw data were submitted and the study contained only summarized information. The registrant indicated that the study was preliminary. A new study must be submitted. Examinations of the acephate end-use product labels indicate that rotational crop restrictions have not been established. The requirements for data pertaining to field accumulation in rotational crops is reserved pending review of confined rotational crop data.

Table A2. Food/Feed Use Patterns Subject to Reregistration for Acephate (Case 0042).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Beans (Including Lima Beans and Other Dry and Succulent Beans)						
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89]	1.0 lb/A	Not specified (NS)	NS	14 (snap beans - succulent or dry beans) 0 (lima beans - succulent)	Initial application should be made when eggs or insects first appear using a minimum of 20 (ground) or 2 (aerial) gal of water/A. An unspecified number of repeat applications may be made at 7- to 10-day intervals. The feeding of treated vines to livestock is prohibited.
Brussels Sprouts and Cauliflower						
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89]	1.0 lb/A	NS	6.0 lb/A (Brussels sprouts) NS (cauliflower)	14	Initial application should be made when eggs or insects first appear using a minimum of 25 (ground) or 5 (aerial) gal of water/A. An unspecified number of repeat applications may be made as needed. The feeding of treated trimmings or the grazing of livestock in treated areas is prohibited.
Cauliflower (See "Brussels Sprouts and Cauliflower")						
Celery						
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89]	1.0 lb/A	NS	NS	21	Initial application should be made when eggs or insects first appear using a minimum of 50 (ground) or 5 (aerial) gal of water/A. An unspecified number of repeat applications may be made at 3- to 10-day intervals. All celery must be trimmed (tops removed) before shipment. The use of treated tops for food/feed is prohibited.

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Cotton						
Preplant Seed hopper box treatment	75% SC/S [59639-26] 90% SC/S [59639-33]	3 oz/A or or 0.2 lb/A	1	NS	Not applicable (NA)	Use prohibited in AZ, CA, and the Black Lands of TX. The product should be applied evenly to cottonseed in a hopper/planter box as a dry powder. The processing of treated seed for oil or use for food/feed is prohibited.
Preplant Slurry seed treatment	80% SC/S [59639-29] 85% SC/S [59639-85]	6.4 oz/100 lb seed	1	NS	NA	Seed treatment may be made in a slurry tank or in sufficient water for thorough coverage with approved fungicides. The processing of treated seed for oil or use for food/feed is prohibited.
At-planting In-furrow (with soil incorporation) Ground	15% G [59639-75] [OK950002] 75% SC/S [59639-26] [59639-89] 90% SC/S [59639-33]	1.0 lb/A	1	NS	NA	Liquid formulations should be applied with flat fan nozzles using a minimum of 3 gal of water/A. Application may be made as a tank mix with approved fungicides.
Postemergence Sidedress treatment Ground	90% SC/S [TX940001] [TX960003]	1.0 lb/A	NS	NS	NS	Use limited to all areas of TX except the Black Lands. Application should be made beginning at the fourth or fifth node stage, and should cease after peak bloom (90 days after planting).

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Cotton (continued)						
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89] [AR810050] [OK800012] [TX790014] 90% SC/S [59639-33] [59639-86] [AR890005] [AR890008] [OK890002] [TX910003]	1.0 lb/A	NS	NS	21	Initial application should be made when eggs or insects first appear using a minimum of 10 (ground), 1 (aerial), or 3-5 (aerial in AZ, CA) gal of water/A. An unspecified number of repeat applications may be made at 3- to 7-day intervals or as needed. May be tank-mixed with bifenthrin, chlorpyrifos, cyfluthrin, cypermethrin, esfenvalerate, fenpropathrin, lambda-cyhalothrin, permethrin, and tralomethrin. The feeding of treated forage or gin trash to livestock and the grazing of animals on treated areas are prohibited.
Cranberries						
Postemergence Foliar Ground (sprinkler)/aerial	75% SC/S [59639-26] [59639-89] [MA960002] [MA960003] [NJ960004] [NJ960005] [WA960024] [WA960025] [WI960007] [WI960008]	1.0 lb/A	1	1.0 lb/A	90	Application should be made using sufficient water to achieve thorough coverage (ground) or in a minimum of 2 gal of water/A (aerial). Application should not be made from start of bloom until all berries have set. When applied via irrigation system, only sprinkler type of irrigation may be used.

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Cranberries (continued)						
Postemergence Foliar Ground (sprinkler)/aerial	75% SC/S [MA960002] [MA960003] [NJ960004] [NJ960005] [OR970006] [OR970007] [WA960024] [WA960025] [WI960007] [WI960008]	1.0 lb/A	2	2.0 lb/A	75	Use limited to MA, NJ, WA, and WI. Application should be made using sufficient water to achieve thorough coverage (ground) or in a minimum of 2 gal of water/A (aerial). Application should not be made from start of bloom until all berries have set; only one application may be applied post-bloom. When applied via irrigation system, only sprinkler type of irrigation may be used.
Food-Handling Establishments (Including Food And Non-Food Areas Where Food And Food Products Are Held, Processed, Prepared, or Served)						
Crack and crevice (pin-stream spray) Spot (coarse, low pressure spray) Paint brush (localized areas)	96% SC/S [59639-31]	1% (w:w)	NS	NS	N/A	Application to food areas is limited to spot and/or crack and crevice treatment. Applications may be repeated as needed. Contamination of food or food-processing surfaces should be avoided. Spray or mist should not come in contact with food, feedstuffs, or water supplies. Use in feed-processing areas of feed-handling establishments is prohibited.

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Lettuce (Crisphead Types)						
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89]	1.0 lb/A	5	5.0 lb/A	21	Application should be made using a minimum of 10 (ground) or 5 (aerial) gal of water/A and repeated as needed. Applications may be made in spring, summer, and early fall in all areas; winter applications may be made in AZ, CA, FL, and TX; and late fall applications may be made in AZ. In the desert areas of AZ and CA, application should not be made after first head begins to form in crops which germinate from mid-September through November. The feeding of trimmings to livestock, and the grazing of animals on treated areas are prohibited.
Lupines (Sweet Grain)						
Postemergence Foliar Ground/aerial	75% SC/S [WA890026]	1.0 lb/A	NS	NS	14	Use limited to WA. Application should be made using a minimum of 20 (ground) or 2 (aerial) gal of water/A. An unspecified number of repeat applications may be made at 7- to 10-day intervals. The grazing of animals on treated areas, and the feeding of treated forage or hay to livestock are prohibited.
Mint (See "Peppermint and Spearmint")						

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Pastures and Rangelands						
Postemergence Foliar Ground/aerial	75% SC/S [59639-89] 97% SC/L [59639-30]	0.125 lb/A	1	0.125 lb/A	21 for hay	Application should be made using a minimum of 10 (ground; 75% SC/S only) or 0.25 (aerial) gal of water/A. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass or grass hay to dairy cattle is prohibited. Lactating dairy cattle should not be pastured in or fed treated hay within 21 days after treatment. Meat animals should be removed from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application.
Postemergence Foliar Aerial	75% SC/S [NM800010] [OK810020] [TX810035]	0.25 lb/A	1	0.25 lb/A	21 for hay	Use limited to NM, OK, and TX. Application should be made using a minimum of 0.5 gal of water/A. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass or grass hay to dairy cattle is prohibited. Lactating dairy cattle should not be pastured in or fed treated hay within 21 days after treatment. Meat animals should be removed from treated areas at least 1 day [7 days for SLN OK810020] before slaughter if they were present at application or grazed treated areas within 21 days of application.

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Pastures and Rangelands (continued)						
Mound treatment Ground	75% SC/S [59639-88]	0.75 oz/5 gal of water [1 gal of finished spray/mound - drench method]	1	13 mounds/A	21	Finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass or grass hay to dairy animals is prohibited. Meat animals should be removed from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application.
	75% SC/S [OK890004]	4 tbs product/mound [dry method] 4.5 oz/5 gal of water [1 gal of finished spray/mound - drench method]	1	13 mounds/A	21	Use limited to OK. For dry method, product should be applied evenly over the mound as a dry powder; for drench method, finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass or grass hay to dairy animals is prohibited. Meat animals should be removed from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application.

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Peanuts						
Preplant Seed hopper box treatment	75% SC/S [AL940001] [FL940002] [GA940001] [GA960002] [VA930005]	3 oz/100 lb seed [SLNs AL940001 and GA960002] 3 oz/A [SLNs FL940002, GA940001, and VA930005]	1	NS	NA	Use limited to AL, FL, GA, and VA. The product should be applied evenly to peanut seed in a hopper/planter box as a dry powder. The processing of treated seed for oil or use for food/feed is prohibited.
At-planting In-furrow Ground	15% G [NM930002] [TX950003] 75% SC/S [NC930003] [VA920003]	1.0 lb/A	1	NS	NA	Use limited to NC, NM, TX, and VA. The feeding of treated forage or hay to livestock, and the grazing of animals on treated areas are prohibited.
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89]	1.0 lb/A	NS	NS	14 (of digging)	Initial application should be made when eggs or insects first appear using a minimum of 10 (ground) or 5 (aerial) gal of water/A. An unspecified number of repeat applications may be made as needed. May be tank-mixed with approved peanut herbicides. The feeding of treated forage or hay to livestock, and the grazing of animals on treated areas are prohibited.

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Peppermint and Spearmint						
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89] [OR890015]	1.0 lb/A	2	2.0 lb/A	14	Initial application should be made when eggs or insects first appear using a minimum of 20 (ground) or 5 (aerial) gal of water/A. One repeat application may be made as needed. The grazing of animals on treated areas and the feeding of spent mint hay to animals are prohibited.
Peppers (Bell)						
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-89]	1.0 lb/A	NS	NS	7	Initial application should be made when eggs or insects first appear using a minimum of 25 (ground), 3 (aerial), or 5 (aerial in CA) gal of water/A. An unspecified number of repeat applications may be made as needed.
Peppers (Non-Bell)						
Postemergence Foliar Ground	75% SC/S [59639-26] [59639-89]	0.5 lb/A	7	3.5 lb/A	7	Use limited to Midwestern and Eastern states and to PR. Application should be made using a minimum of 40 gal of water/A. Repeat applications may be made at 7- to 10-day intervals as needed.
Peppers (Unspecified Type)						
At-planting In-furrow (with soil incorporation) Ground	15% G [AZ940002] [NM930001]	1.0 lb/A	NS	2 lb/A	NS	Use limited to full-season peppers (e.g., varieties that require 130-150 days to reach maturity) grown in AZ and NM. Foliar application should not be made following in-furrow application.
Peppers (Unspecified Type; continued)						

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Postemergence Sidedress treatment (with soil incorporation) Ground	15% G [AZ940002] [NM930001]	1.0 lb/A	NS	2 lb/A	88	Use limited to full-season peppers (e.g., varieties that require 130-150 days to reach maturity) grown in AZ and NM. Foliar application should <u>not</u> be made following sidedress application.
Rangelands (See Pastures and Rangelands)						
Soybeans						
Preplant Seed hopper box treatment	75% SC/S [MS820023]	0.5 lb/A	1	NS	NA	Use limited to MS. Application should be made evenly to soybean seed in a hopper/planter box as a dry powder. The use of treated soybean seed for food/feed is prohibited.
Foliar Postemergence Ground/aerial	90% SC/S [LA890014]	1.0 lb/A	NS	NS	14	Use limited to LA. Applications should be made using a minimum of 10 (ground) or 5 (aerial) gal of water/A. An unspecified number of repeat applications may be made as necessary. The grazing or cutting of vines for hay or forage is prohibited.
Spearmint (See "Peppermint")						
Tobacco						
Foliar Floatbed/greenhouse Ground	75% SC/S [59639-26] [59639-89]	0.75 lb/A or 1 tbs of product/3 gal of water/1,000 sq. ft of bed	NS	NS	NS	Use prohibited in CA [59639-89 only].

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Tobacco (continued)						
Foliar Plant bed Ground	75% SC/S [59639-26] [59639-27] [59639-89]	0.75 lb/A or ~ 1 tbs of product/1 gal of water/1,000 sq. ft of bed	NS	NS	NS	Use prohibited in CA [59639-89 only].
Transplant water Ground	75% SC/S [59639-26] [59639-27] [59639-89] [TN930002]	0.75 lb/A	1	0.75 lb/A	NS	Use prohibited in CA [59639-89 only]. Application should be using a minimum of 100 gal of water/A.
	75% SC/S [TN930002]	1.5 lb/A	1	1.5 lb/A	NS	Use limited to TN. Application should be using a minimum of 200 gal of water/A.
Postemergence Foliar Ground/aerial	75% SC/S [59639-26] [59639-27] [59639-89]	0.75 lb/A	NS	NS	3	Use prohibited in CA [59639-89 only]. Application should be made using a minimum of 10 (ground) or 3 (aerial) gal of water/A. Repeat applications may be made at 7-day intervals or as needed.
Mound treatment Ground	75% SC/S [59639-26] [59639-27] [59639-89]	1-2 tsp product/mound [dry method] or 0.75 oz/5 gal of water [1 gal of finished spray/mound - drench method]	1	13 mounds/A	3	Use prohibited in CA [59639-89 only]. For dry method, product should be applied evenly over the mound as a dry powder; for drench method, finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound.

Table A2 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Maximum Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Preharvest Interval (Days)	Use Limitations ¹
Wheat (Winter)						
Postemergence Foliar Aerial	75% SC/S [OK810020]	0.25 lb/A	NS	NS	21 for hay	Use limited to OK. Application should be made using a minimum of 0.5 gal of water/A. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass hay to dairy animals is prohibited. Lactating dairy cattle should not be allowed to pasture or feed treated hay within 21 days after treatment. Meat animals should be removed from treated areas at least 7 day before slaughter if they were present at application or grazed treated areas within 21 days of application.

¹ The restricted entry interval (REI) is 24 hours.

Table A3. Non-Food/Non-Feed Use Patterns Subject to Reregistration for Acephate (Case 0042).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Bermudagrass (Seed Crop)						
Foliar Ground/aerial	75% SC/S [AZ790025]	1 lb/A	Not specified (NS)	NS	As needed	Use limited to Bermudagrass grown for seed in AZ. Application should be made using a minimum of 20 (ground) or 5 (aerial) gal of water/A. The feeding of treated commodity to livestock and the grazing of animal on treated areas are prohibited.
Carrots (Seed Crop)						
Fall or early spring prebloom Foliar Ground/aerial	75% SC/S [OR930013] [OR930014] [WA930027] [WA950035]	1 lb/A	2	2 lb/A	As needed	Use limited to carrots grown for seed in OR and WA. Application should be made in 10 gal of water/A. Not for use on fields producing carrots for food. No portion of the treated field, including seed, seed screenings, and carrot waste may be used for human or animal feed. The grazing of livestock animals on treated areas is prohibited.
Citrus Fruits (Non-Bearing)						
Foliar Ground	75% SC/S [59639-26] [59639-89] [FL890022] [TX900001]	0.5-1.0 lb/A	NS	NS	7-10 days or as needed	Initial spray application should be made to individual juvenile or non-bearing trees when eggs or insects first appear using a minimum of 100 gal of water/A by ground equipment. The grazing of livestock on treated areas and the harvesting of citrus fruits for one year after treatment are prohibited.
	75% SC/S [FL890022]	2.0-4.0 lb/A	NS	NS	NS	Use limited to FL. Application should be made to individual juvenile or non-bearing trees using a minimum of 100 gal of water/A by ground equipment. The grazing of livestock on treated areas and the harvesting of citrus fruits for one year after treatment are prohibited.

Table A3 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Citrus Fruits (Non-Bearing) (continued)						
Mound treatment Ground	75% SC/S [59639-26] [59639-89] [FL890019]	0.75 oz/5 gal of water [1 gal of finished spray/mound - drench method]	NS	NS	as needed	Finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound. The grazing of livestock on treated area and the harvesting of citrus fruits for one year after treatment are prohibited.
Coffee (Non-Bearing)						
Mound treatment Ground	75% SC/S [PR910002]	1-2 tsp product/mound [dry method] 0.75 oz/5 gal of water [1 gal of finished spray/mound - drench method]	NS	NS	NS	Use limited to non-bearing coffee (<2 years old) grown in PR. For dry method, product should be applied evenly over the mound as a dry powder; for drench method, finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound. The grazing of livestock on treated area is prohibited.
Domestic Dwellings (Indoor Non-Food Areas) Commercial, Institutional, and Industrial Areas (Indoor Non-Food Areas)						
Crack and crevice (pin-stream spray) Spot (coarse, low pressure spray) Paint brush (localized areas)	96% SC/S [59639-31]	0.5-1.0% (w:w)	NS	NS	as needed	Contamination of food or food-processing surfaces should be avoided. Spray or mist should not come in contact with food, feedstuffs, or water supplies. Use in feed-processing areas of feed-handling establishments is prohibited.

Table A3 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Domestic Dwellings (Outdoor)						
Spot Soil band/foundation Paint brush (surfaces) Ground	75% SC/S [59639-26] [59639-88]	1.2 oz/gal of water	NS	NS	NS	Initial application should be made when pests first appear.
Forest Lands and Forest Trees						
Foliar Aerial	97% SC/L [59639-30]	0.5-0.75 lb/A	NS	NS	NS	Use limited to personnel involved in state or Federal control programs. Initial application should be made after foliage expansion and insect hatch have begun using a minimum of 0.25 gal of water/A.
Greenhouses At The EPCOT Center (Lake Buena Vista, FL)						
Foliar Ground	75% SC/S [FL910011]	0.5-0.75 lb/100 gal	NS	NS	NS	Use limited to crops grown in greenhouses at the EPCOT Center (Lake Buena Vista, FL). Treated crop commodities must be destroyed following harvest and in no case should be consumed.
Non-Crop Areas (Field Borders, Fencerows, Roadsides, Ditchbanks, and Borrow Pits)						
Early to mid-season application Foliar Ground/aerial	75% SC/S [59639-26] [59639-89]	0.25 lb/A	NS	NS	NS	Application should be made using a minimum of 10 (ground), 1 (aerial), or 5 (aerial in CA) gal of water/A. The grazing or feeding of vegetation cut from treated areas is prohibited.

Table A3 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Non-Crop Areas (Wasteland)						
Foliar Ground/aerial	75% SC/S [59639-26] [59639-89] 97% SC/L [59639-30]	0.09-0.125 lb/A	1	0.125 lb/A	NS	Application should be made using a minimum of 10 (ground), 0.5 (aerial), or 5 (aerial in CA) gal of water/A. The grazing or feeding of vegetation cut from treated areas; application when lactating dairy cattle are present; and the grazing or feeding of grass or grass hay to dairy animals are prohibited. Meat animals should be removed from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application.
Mound treatment Ground	75% SC/S [59639-88] [TX83022] [OK890005]	0.75 oz/5 gal of water [1 gal of finished spray/mound - drench method]	1	13 mounds/A	NS	Finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass hay to dairy animals is prohibited. Meat animals should be removed from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application.

Table A3 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Non-Crop Areas (Wasteland; continued)						
Mound Treatment Ground	75% SC/S [OK890004]	4.5 oz/5 gal of water [1 gal of finished spray/mound - drench method]	1	13 mounds/A	NS	Finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass hay to dairy animals is prohibited. Meat animals should be removed from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application.
Noncrop Areas (Unspecified)						
Mound treatment Ground	75% SC/S [59639-26] [59639-88]	1-2 tsp product/mound [dry method] 0.75 oz/5 gal of water [1 gal of finished spray/mound - drench method]	1	2 tsp product/ mound [dry method]	NS	For dry method, product should be applied evenly over the mound as a dry powder; for drench method, finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound. Application should not be made when lactating dairy cattle are present. The grazing or feeding of treated grass hay to dairy animals is prohibited. Meat animals should be removed from treated areas at least 1 day before slaughter if they were present at application or grazed treated areas within 21 days of application.
Onions (Seed Crop; Research Purposes Only)						
Foliar Ground	75% SC/S [59639-26]	0.5-1.0 lb/A	NS	NS	As needed	Use limited to onions grown for seed (research purposes only) in CA. Applications should be made in 50 gal/A of water using ground equipment. Applications should not be made when plants are in full bloom. Onions harvested from treated fields should not be used for food/feed.

Table A3 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Ornamental Lawns, Turfs, and Other Ground Covers						
Foliar/Broadcast Ground	75% SC/S [59639-26] [59639-88] 15% G [59639-87] [AL960001] [FL890006] [FL960007] [LA950011] [SC960001] [MS960016]	1.0-5.0 lb/A	NS	NS	7-14 days, as needed	Initial application should be made when insects or damage first appear using a minimum of 1 gal of water/1,000 sq. ft for liquid formulation. The grazing of livestock on treated area and the feeding of treated grass to livestock are prohibited.
Ornamental Lawns, Turfs, and Other Ground Covers (continued)						
Mound treatment Ground	15% G [59639-87] 75% SC/S [59639-26] [59639-88] [MS890011] [OK890005]	1-2 tsp product/mound [dry method] 0.75 -1.0 oz product/5 gal of water [1 gal of finished spray/mound - drench method]	1	2 tsp product/ mound [dry method]	NS	For dry method [59639-26 only], product should be applied evenly over the mound as a dry powder; for drench method, finished spray should be applied until the mound is wet and to an area 4 ft in diameter around the mound.

Table A3 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Ornamental Plants						
Foliar Ground	75% SC/S [59639-26] [59639-88] [CA870064]	0.375-0.5 lb/A or 0.5-1.0 lb/100 gal of water	NS	NS	14 days, as needed	Initial application should be made when insects first appear using.
Ornamental Plants (Container-Grown Nursery Stock)						
Foliar/broadcast Ground	15% G 75% SC/S [59639-26] [59639-88]	1/8 - 3/4 tsp 15% G/3-12 inch-pot or 5 lb/A 0.75 lb/100 gal of water	NS	NS	as needed	Thorough drench application of liquid formulation should be made by mid-September for greenhouse stock and by mid-October for outdoor stock.
Ornamental Plants (Greenhouse)						
Foliar Ground	75% SC/S [59639-26] [59639-88] [CA870020]	0.25-0.75 lb/100 gal of water/A	NS	NS	5-28 days, as needed	Initial application should be made when eggs or insects first appear.
Ornamental Trees and Shrubs (Except Flowering Crabapple)						
Foliar Ground	75% SC/S [59639-26] [59639-88]	0.25-1.0 lb/100 gal of water	NS	NS	14-28 days, as needed	Initial application should be made when insects or damage first appear.
Ornamental Trees and Shrubs (Flowering Crabapple)						
Foliar Ground	75% SC/S [59639-26] [59639-88]	0.25 lb/100 gal of water	3	0.75 lb/300 gal of water	28 days	Initial application should be made as insects appear.

Table A3 (continued).

Site Application Timing Application Type Application Equipment	Formulation [EPA Reg. No.]	Single Application Rate (ai)	Maximum Number of Applications Per Season	Maximum Seasonal Rate (ai)	Retreatment Interval (Days)	Use Limitations ¹
Ornamental Trees and Shrubs (Crape Myrtle)						
Banded Paint brush	75% SC/S [59639-26]	3-4 tbs/1 tbs water	NS	NS	NS	Application should be made as a paint-on slurry to the trunk in a band 6-12 inches above the ground.
Ornamental Trees and Shrubs (Douglas Fir)						
Foliar Ground/aerial	75% SC/S [59639-26] [59639-88]	0.5 lb/A	1	0.5 lb/A	--	Application should be made no more than 2 weeks prior to bud burst using a minimum of 100 (ground) or 2 (aerial) gal of water/A.
Ornamental Trees and Shrubs (Southern Pine Seed Orchards)						
Foliar Ground/aerial	75% SC/S [FL890016] [FL890017] [FL890018] [GA880004] [NC870006] [VA870007] [TX890003]	3.0-4.0 lb/A	2 (Implied)	2.0 lb/A (Implied)	2-6 weeks	Use limited to Southern pine seed orchards grown in FL, GA, NC, VA, and TX. Initial application should be made when female flowers are in twig bud stage using a minimum of 100 (ground) or 10 (aerial) gal of water/A. The grazing of livestock on treated areas and the harvesting of treated cover crops are prohibited.
Potatoes (Greenhouse Grown Pre-Nuclear)						
Foliar Ground	75% SC/S [PA930004]	0.5-0.75 lb/100 gal	NS	NS	as needed	Use limited to greenhouse-grown pre-nuclear potatoes in PA. Initial application should be made when insects first appear.
Radishes (Seed Crop)						
Postemergence Broadcast/foliar Ground/aerial	75% SC/S [WA810064]	1.0 lb/A	NS	NS	as needed	Use limited to radishes grown for seed in WA. Application should be made using a minimum of 10 (ground) or 5 (aerial) gal of water/A. Application before or during peak bloom period is not recommended. The feeding of treated crop to livestock, and the grazing of animals on treated areas are prohibited.

¹ The restricted entry interval (REI) is 24 hours.

Table B. Residue Chemistry Science Assessments for Reregistration of Acephate.

GLN: Data Requirements	Current Tolerances, ppm ¹ [40 CFR]	Must Additional Data Be Submitted?	References ²
860.1200: Directions for Use	N/A = Not Applicable	Yes ³	See Tables A1 and A2.
860.1300: Plant Metabolism	N/A	Yes ⁴	00014989, 00014990, 00015187, 00015188, 00015203, 00015210, 43971602 ⁵ , 43971603 ⁵ , 44037801 ⁵
860.1300: Animal Metabolism	N/A	Yes ⁶	00014555, 00015222, 43971604 ⁵ , 44037803 ⁵
860.1340: Residue Analytical Methods			
- Plant commodities	N/A	No	00014579, 00014659, 00014729, 00014983, 43971606 ⁵ , 43971607 ⁵ , 44037802 ⁵
- Animal commodities	N/A	No	00014579, 00014659, 00014729, 00014983, 43971608 ⁵ , 44037804 ⁵
860.1360: Multiresidue Methods	N/A	No	
860.1380: Storage Stability Data	N/A	No ⁷	00014984, 00015179, 40504802 ⁸ , 40874102 , 40874103 , 41081601, 41137902 , 44025201 ⁹
860.1500: Crop Field Trials			
<u>Leafy Vegetables (except <i>Brassica</i> Vegetables) Group</u>			
- Celery	10.0 (1.0) [§180.108(a)]	No	00014768, 00014769, 00014770, 00014771, 00014772, 00014773, 00015323, 00015324, 00015325, 00015326, 00015327, 00015328, 00015329, 00109353

Table B (*continued*).

GLN: Data Requirements	Current Tolerances, ppm ¹ [40 CFR]	Must Additional Data Be Submitted?	References ²
- Lettuce (head)	10.0 (1.0) [§180.108(a)]	No	00014971, 00015042, 00015190, 00015191, 00015192, 00015193, 00015194, 00015293, 00015294
<u><i>Brassica (Cole) Vegetables Group</i></u>			
- Brussels sprouts	3.0 (0.5) [§180.108(a)]	No	00115240
- Cauliflower	2.0 (0.5) [§180.108(a)]	No	00115240
<u><i>Legume Vegetables (Succulent or Dried) Group</i></u>			
- Beans (succulent and dry)	3.0 (1.0) [§180.108(a)]	No	00014540, 00014774, 00014775, 00014776, 00014777, 00014778, 00014780, 00014781, 00014783, 00014791, 00072783, 40504805 ⁸
- Soybean seed and aspirated grain fractions	1.0, soybeans [§180.108(a)]	No	00014532, 00014533, 00014534, 00015049, 00015050, 00015060, 40504805
<u><i>Foliage of Legume Vegetables Group</i></u>			
- Beans, forage and hay	None established	No ¹⁰	00014541, 00014778, 00014780, 00014787, 00014791
- Soybean forage and hay	None established	No	

Table B (continued).

GLN: Data Requirements	Current Tolerances, ppm ¹ [40 CFR]	Must Additional Data Be Submitted?	References ²
<u>Fruiting Vegetables (Except Cucurbits) Group</u>			
- Peppers	4.0 (1.0) [§180.108(a)]	No	00014760, 00014762, 00014763, 00014764, 00014765
<u>Tree Nuts Group</u>			
- Macadamia Nuts	0.05 [§180.108(b)]	No	00138156
<u>Miscellaneous Commodities</u>			
- Cotton, seed and gin byproducts	2.0, seed [§180.108(a)]	Yes ¹¹	00014852, 00014853, 00014854, 00014855, 00015038, 00015199, 00015206, 42450501 ¹²
- Cranberries	0.5 (0.1) [§180.108(a)]	No	00115589
- Mint (spearmint and peppermint) hay	15.0 (1.0) [§180.108(a)]	No ¹³	00029683, 00029684, 00029685, 40504803 ⁸ , 43971610 ⁵
- Peanuts, nutmeat and hay	0.2, peanuts; 5.0, peanut hulls [§180.108(a)]	No ¹⁴	00093722, 00093724, 44025201 ¹⁰ , 44025202 ¹⁰
- Tobacco	N/A	Yes ¹⁵	00015122, 00015125, 00109354, 40504809
860.1520: Processed Food/Feed			
- Cottonseed	4.0, hulls; 8.0, meal; [§186.100]	No	00015038, 00015196, 00015198, 00015199, 00015206
- Mint	None established	No	00029684, 00029685, 40504803 ⁸
- Peanuts	None established	No	43971611 ⁵

Table B (*continued*).

GLN: Data Requirements	Current Tolerances, ppm ¹ [40 CFR]	Must Additional Data Be Submitted?	References ²
- Soybeans	4.0, meal [§186.100]	No ¹⁶	00014532, 00014533, 00014534, 00015050, 40504805 ⁸ , 41137903
860.1480: Meat, Milk, Poultry, Eggs			
- Milk and the Fat, Meat, and Meat Byproducts of Cattle, Goats, Hogs, Horses, and Sheep	0.1 [§180.108(a)]	No	00015183, 00015225, 00015226, 40504806 ⁸
- Eggs and the Fat, Meat, and Meat Byproducts of Poultry	0.1 [§180.108(a)]	No	00015230, 00015245
860.1400: Water, Fish, and Irrigated Crops	N/A	N/A	
860.1460: Food Handling	0.02 (food items due to treatment of food- handling establishments) [§185.100]	No	<i>00014654-00014658</i>
860.1850: Confined Rotational Crops	N/A	Yes ¹⁷	40504816, 40874101
860.1900: Field Rotational Crops	None established	Reserved ¹⁸	

1. The acephate tolerances, presently established under 40 CFR §180.108 (a) and (b), 40 CFR §185.100, and 40 CFR §186.100, are expressed in terms of combined residues of acephate and methamidophos. The number in parentheses reflects the ppm level that residues of methamidophos may not exceed.
2. **Bolded** references were reviewed in the Acephate Residue Chemistry Reregistration Standard Update (CBRS No. 8984, DP Barcode D171638, 1/29/92, E. Zager). *Italicized* references were reviewed in the Addendum to the Acephate Registration Standard dated 10/5/84. Unbolded references were reviewed in the Residue Chemistry Science Chapter of the Acephate Reregistration Standard dated 9/87. Otherwise, references were reviewed as noted.
3. The following label amendments are required for ALL acephate end-use products unless otherwise specified:

The registrant must comply with OPPTS 860.1500 regarding the use of ground or aerial equipment. Unless adequate field trial data reflecting aerial application of acephate in <2 gal of water/A (<10 gal of water/A for tree or orchard crops) are available, acephate product labels must specify that aerial applications are to be made in a minimum of 2 gallons water per acre (or 10 gallons per acre in the case of tree or orchard crops).

The registrant should specify the maximum number of applications per growing season (or maximum seasonal rate) that may be allowed for the following crops: beans; cauliflower, celery, cotton,, peanuts, peppers (bell), and tobacco. The required label revisions must be supported by adequate residue data.

The registrant must add a statement to their labels which states that use of products containing methamidophos after application of acephate is not advisable and may result in illegal residues.

Current RD policy allows a maximum of 5 SLN registrations per crop. The registrant must cancel SLN registrations for use of acephate on cotton, cranberries, and peanuts such that each crop has no more than 5 SLN registrations.

For beans, product labels should specifically exclude cowpeas; with such restrictions, field residue data and tolerances for cowpea forage and hay will not be required.

To support use of acephate on Bermudagrass (grown for seed) under SLN registration AZ790025, the Agency requires assurances from the state of AZ that no plant parts of the seed crop would be diverted to food or feed before acephate use on this crop before this use can be classified as a non-food use.

Before use of acephate on non-bearing citrus under SLN registration FL890022 may be fully classified as a non-food use, the label should clearly stipulate the area of treatment, method of treatment, and frequency of treatment, as previously requested (CB No. 5304, 6/9/89, F. Toghrol).

Before use of acephate on non-bearing coffee under SLN registration PR910002 may be fully classified as a non-food use, the label should add grazing and feeding restrictions, and clearly specify the area of treatment, amount of active ingredient applied per acre (or number of treated mounds per acre), and frequency of treatment, as previously requested (CB No. 8492, DP Barcode D165081, 10/1/91, F. Toghrol).

For use of acephate on cotton, the restrictions against the feeding of gin trash to livestock and grazing of animals on treated areas must be removed from product labels. In addition, the restrictions against the use of treated seed (seed treatment use) for food/feed purposes or for processing for oil must be removed from product labels. The Agency does not consider these restrictions to be practical or enforceable.

To support use of acephate on greenhouse-grown pre-nuclear potatoes under SLN registration PA930004, restrictions against use on potatoes grown for food and against diverting pre-nuclear tubers to food or feed channels must be added to the label.

4. To upgrade the existing bean and lettuce metabolism studies, the registrant must submit information regarding the dates of analysis of samples. To upgrade the existing cotton metabolism study, the registrant must supply the dates of analysis of samples, and provide data indicating that the metabolite profile in cotton commodities did not change over the intervals for which samples were stored.
5. CBRS Nos. 17188, 17189, 17190, 17191, 17427, and 17429; DP Barcodes D225794, D225795, D225796, D225786, D228007, and D227969; 4/10/97; F. Fort.
6. To upgrade the existing poultry metabolism study, the registrant must submit data demonstrating that the metabolic profile of radioactive residues in poultry muscle did not change significantly between the initial analysis (completed within 35 days of collection) and the repeat analyses (conducted ~15 months later).
7. DPBarcode D235332, 4/7/98, F.Fort
8. These data were also summarized in a dietary exposure assessment review (CB No. 4419, 1/28/89, F. Suhre).

9. DPBarcode D227000; 4/7/98; F.Fort
10. Pending required label amendments (see Endnote 3), the reregistration requirements for this guideline topic will be considered fulfilled.
11. No additional data are required for cottonseed. However, the Agency currently recognizes cotton gin byproducts (commonly called gin trash which include the plant residues from ginning cotton consisting of burrs, leaves, stems, lint, immature seeds, and sand and/or dirt) as a RAC (Table I, OPPTS 860.1000). Data depicting the magnitude of acephate residues of concern in/on cotton gin byproducts following application(s) of a representative formulation according to the maximum registered use patterns are required. Cotton must be harvested by commercial equipment (stripper and mechanical picker) to provide an adequate representation of plant residue for the ginning process. A minimum of three field trials for each type of harvesting (stripper and mechanical picker) are required, for a total of six field trials. An appropriate tolerance for this RAC should be proposed once acceptable data have been submitted and evaluated.
12. CBTS No. 10512, DP Barcode D182124, 12/28/92, R. Lascola.
13. No additional data are required for mint tops (leaves and stems). However, information is required to explain inconsistencies in the results of submitted field residue studies. Data reviewed in the Acephate Update reported tolerance-exceeding residues in/on mint hay whereas data from more recent submission indicate that the combined residues of acephate and methamidophos were below the established tolerance following applications according to the maximum registered use patterns.
14. DPBarcode D227000, 4/7/98, F.Fort
15. DPBarcode D238654, 2/2/98, F. Fort
16. DPBarcode D254624, 8/9/99, F. Fort
17. Data pertaining to confined rotational crops have been submitted and were found to be deficient. A new study is required.
19. The requirements for data pertaining to field accumulation in rotational crops is reserved pending review of the confined rotational crop data.
18. The requirements for data pertaining to field accumulation in rotational crops is reserved pending review of the confined rotational crop data.

TOLERANCE REASSESSMENT SUMMARY

Tolerances for residues of acephate in/on plant and animal commodities [40 CFR §180.108 (a) and (b)] and in processed food [40 CFR §185.100] and feed [40 CFR §186.100] commodities are currently expressed in terms of the combined residues of acephate and methamidophos.

The available plant and animal metabolism studies indicate that the residues of concern are the parent and methamidophos. We recommend that all acephate tolerances be expressed in terms of only acephate *per se* under 40 CFR §180.108. Residues of methamidophos resulting from the metabolism of acephate are more appropriately placed under the tolerance regulations for methamidophos as a pesticide [40 CFR §180.315 (c)]. These changes are needed to achieve compatibility with CODEX, if only in terms of residue definition. Such a change in the residue definition would require deletion of paragraph (d) (8) of 40 CFR §180.3 which states that methamidophos residues may not exceed the higher of the two tolerances established for the use of acephate or methamidophos as a pesticide. A statement should be added to 40 CFR §180.108 explaining that residues of the acephate metabolite methamidophos are regulated under 40 CFR §180.315.

The listing of acephate tolerances under 40 CFR §180.108 should be subdivided into parts (a), (b), (c), and (d). Part (a) should be reserved for commodities with permanent tolerances, part (b) for commodities of food/feed crops with regional registration, part (c) for food items in food areas of food-handling establishments as a result of crack and crevice treatments (formerly listed under 40 CFR §185.100), and part (d), if needed, for processed feed items (formerly listed under 40 CFR §186.100).

The listing of methamidophos tolerances under 40 CFR §180.315 should also be subdivided into parts (a), (b), and (c) where (c) includes tolerances reflecting use of acephate formulations alone (i.e., no methamidophos formulations are registered for use on these commodities).

The Agency has recently updated the list of raw agricultural and processed commodities and feedstuffs derived from crops (Table 1, OPPTS GLN 860.1000). As a result of changes to Table 1, acephate tolerances for certain RACs which have been removed from the livestock feeds table need to be revoked. Also, some commodity definitions must be corrected. A summary of acephate tolerance reassessments is presented in Table C.

Tolerances Listed Under 40 CFR §180.108 (a):

Pending label amendments for some crops, adequate field trial data are available to reassess the established tolerances for residues of acephate *per se* in/on following plant commodities, **as defined**: beans (succulent and dry form); Brussels sprouts; cauliflower; celery; cottonseed; cranberries; lettuce (head); peanuts; peppers, and soybean. The available data suggest that the tolerance level for cottonseed can be lowered.

Adequate poultry feeding data are available to reassess the established tolerances for residues of acephate *per se* in eggs and the fat, meat, and mbyp of poultry. No adjustments in the established tolerance levels of these commodities are needed.

The available ruminant feeding data suggest that the established tolerances for residues of acephate *per se* in milk and the fat, meat, and mbyp of cattle, goats, hogs, horses are adequate. However, actual reassessment of tolerances will be made when the requested residue data for all major livestock feed items have been submitted and following re-calculation of maximum dietary burden.

Tolerance to be Proposed Under 40 CFR §180.108 (a):

Tolerances for residues of acephate in/on cotton gin byproducts must be proposed once adequate field residue data, reflecting the maximum registered use pattern, have been submitted and evaluated.

Tolerance Listed Under 40 CFR §180.108 (b):

Sufficient data are available to reassess the established tolerance with regional registration for macadamia nuts.

Tolerances Listed Under 40 CFR §185.100:

Sufficient data are available to reassess the established tolerance in/on all food items as a result of use in food-handling establishments reflecting spot and crack and crevice treatment. There is no expectation of methamidophos residues in such foods; residues of acephate were nondetectable (<0.01 ppm) in all cases.

Tolerances Listed Under 40 CFR §186.100:

Following re-evaluation of the available cottonseed processing, adjustments in the tolerance levels for cottonseed hulls and meal are required. Based on the HAFT residue of 0.32 ppm (see PP#3F1375, 8/5/74, R. Schmitt) and maximum concentration factors of 2x and 4x for meal and hulls, respectively, acephate residues are not expected to exceed the reassessed RAC (cottonseed) tolerance of 0.5 ppm.

Following re-evaluation of the available soybean processing, adjustments in the tolerance levels for soybean meal are required. Since no concentration of residues was observed in processing of soybean to meal, acephate residues are not expected to exceed the RAC (soybean) tolerance of 1.0 ppm.

Pending Tolerance Petitions:

Recent petition: IR-4 has recently submitted a petition, PP#3E4163, for the regional registration of a 75% SC formulation of acephate in CA and for the establishment of a tolerance for residues of acephate *per se* in/on leaf lettuce at 1.0 ppm. CBTS has recommended (CB No. 16420, DP Barcode D220486, 4/4/96, N. Dodd) for the establishment of the requested tolerance, TOX considerations permitting. The tolerance will be established with a regional registration with use restricted to CA.

Other pending petitions: Petitions for the establishment of tolerances for residues of acephate and its metabolite methamidophos have been submitted for: almonds (PP#4E3043); asparagus (PP#7E3562); avocados (PP#4E3029); blueberries (PP#4E3091); corn grain, forage, and kernels plus cobs with husks removed (PP#5F3231); grapes (PP#3E2867); onions (PP#3E2813); peas (PP#6E3406); pineapple (PP#6E3448 and PP#6H5509); potatoes (PP#3F2799); squash (PP#4E3087); sugarcane (PP#4E3106); and sunflowers (PP#4F3051/4H5429). The petitions listed above are either pending or in reject status; no action has been taken on any of these petitions since the issuance of the Update.

Table C. Tolerance Reassessment Summary for Acephate.

Commodity	Acephate		Methamidophos		Comment [Correct Commodity Definition]
	Tolerance ¹ Listed Under 40 CFR §180.108	Reassessed Tolerance ²	Tolerance ³ Listed Under 40 CFR §180.315	Reassessed Tolerance ³	
Tolerances Listed Under 40 CFR §180.108 (a)					
Beans (succulent and dry form)	3 (1)	3.0	--	1.0	[Beans, dry and succulent]
Brussels sprouts	3.0 (0.5)	3.0	1.0	1.0	
Cattle, fat	0.1	0.1	--	--	
Cattle, meat	0.1	0.1	--	--	
Cattle, mbyp	0.1	0.1	--	--	
Goats, fat	0.1	0.1	--	--	
Goats, meat	0.1	0.1	--	--	
Goats, mbyp	0.1	0.1	--	--	
Hogs, fat	0.1	0.1	--	--	
Hogs, meat	0.1	0.1	--	--	
Hogs, mbyp	0.1	0.1	--	--	
Horses, fat	0.1	0.1	--	--	
Horses, meat	0.1	0.1	--	--	
Horses, mbyp	0.1	0.1	--	--	
Milk	0.1	0.1	--	--	
Sheep, fat	0.1	0.1	--	--	
Sheep, meat	0.1	0.1	--	--	
Sheep, mbyp	0.1	0.1	--	--	
Cauliflower	2.0 (0.5)	2.0	1.0	1.0	

Table C (continued).

Commodity	Acephate		Methamidophos		Comment [Correct Commodity Definition]
	Tolerance ¹ Listed Under 40 CFR §180.108	Reassessed Tolerance ²	Tolerance ³ Listed Under 40 CFR §180.315	Reassessed Tolerance ³	
Celery	10 (1)	10.0	1.0	1.0	
Cottonseed	2	0.5	0.1 (N)	0.1	[Cotton, undelinted seed]
Cranberries	0.5 (0.1)	0.5	--	0.1	
Eggs	0.1	0.1			
Grass (pasture & range)	15	Revoke	--	--	This use is not supported by the registrant.
Grass hay	15	Revoke	--	--	
Lettuce (head)	10 (1)	10.0	1.0 ⁵	1.0	[Lettuce, head]
Mint hay	15.0 (1)	27	1	2	[Mint, tops (leaves and stem)] Tolerance may be lowered following receipt of additional information pertaining to residues exceeding tolerance in/on samples from trials conducted before the Update.
Peanuts	0.2	0.2	--	--	Additional field trial data are required.
Peanut hulls	5.0	Revoke	--	--	Peanut hulls are no longer considered a significant livestock feed item (Table 1, OPPTS GLN 860.1000).
Peppers	4.0 (1)	4.0	1.0	1.0	
Poultry, fat	0.1	0.1	--	--	
Poultry, meat	0.1	0.1	--	--	
Poultry, mbyp	0.1	0.1	--	--	
Soybeans	1	1	--	--	

Table C (continued).

Commodity	Acephate		Methamidophos		Comment [Correct Commodity Definition]
	Tolerance ¹ Listed Under 40 CFR §180.108	Reassessed Tolerance ²	Tolerance ³ Listed Under 40 CFR §180.315	Reassessed Tolerance ³	
Tolerance To Be Proposed Under 40 CFR §180.108 (a)					
Cotton, gin byproducts	None	TBD	--	--	Data for cotton gin byproducts are now required as a result of changes in Table 1 (GLN 860.1000).
Tolerances Listed Under 40 CFR §180.108 (b)					
Macadamia nuts	0.05	0.05	--	--	
Tolerances Listed Under 40 CFR §185.100					
Food items in food-handling establishments as a result of spot and/or crack and crevice treatments	0.02	0.02	--	--	
Tolerances Listed Under 40 CFR §186. 100					
Cottonseed hulls	4	1.0	--	--	
Cottonseed meal	8	1.0	--	--	
Soybean meal	4	Revoke	--	--	

¹ Expressed in terms of the combined residues of acephate and methamidophos. If specified, limits of methamidophos are given parenthetically.

² Expressed in terms of acephate *per se*.

³ Expressed in terms of methamidophos *per se*.

⁴ TBD = To be determined. Reassessment of tolerance(s) cannot be made at this time because additional data are required.

⁵ The methamidophos tolerance covers all types of lettuce (head and leaf).

CODEX HARMONIZATION

The Codex Alimentarius Commission has established several maximum residue limits (MRLs) for residues of acephate in/on various plant and animal commodities. The Codex MRLs are expressed in terms of acephate *per se*. Harmonization of expression/definition between Codex MRLs and U.S. tolerances will be achieved when the residue definition of the U.S. tolerances is changed from combined residues of acephate and the metabolite methamidophos to acephate *per se*. A numerical comparison of the Codex MRLs and the corresponding **reassessed** U.S. tolerances is presented in Table D.

Table D. Codex MRLs and applicable U.S. tolerances for acephate. Recommendations for compatibility are based on conclusions following reassessment of U.S. tolerances (see Table C).

Codex			Reassessed U.S. Tolerance, ppm	Recommendation And Comments
Commodity, As Defined	MRL (mg/kg)	Step		
Alfalfa forage (green)	10 (fresh weight)	CXL	--	No registered uses in U.S.
Broccoli	5	7B	--	No registered uses in U.S.
Brussels sprouts	5	7B	3.0	
Cabbages, Head	5	7B	--	No registered uses in U.S.
Cattle fat	0.1	CXL	TBD ¹	
Cattle meat	0.1	CXL	TBD	
Cauliflower	5	7B	2.0	
Citrus fruits	5	7B	--	No registered uses in U.S.
Cotton seed	2	CXL	0.5	Compatibility exists.
Eggs	0.1	CXL	TBD	
Lettuce, Head	5	CXL	10.0	
Milks	0.1	CXL	TBD	
Pig fat	0.1	CXL	TBD	
Pig meat	0.1	CXL	TBD	
Potato	0.5	CXL	--	No registered uses in U.S.
Poultry fats	0.1	CXL	TBD	
Poultry meat	0.1	CXL	TBD	
Soya bean (dry)	0.5	CXL	TBD	
Sugar beet	0.1	CXL	--	No registered uses in U.S.
Sugar beet leaves or tops	10	CXL	--	No registered uses in U.S.
Tomato	5	7B	--	No registered uses in U.S.
Tree tomato	0.5	CXL	--	No registered uses in U.S.

¹ TBD = To be determined; residue data remain outstanding.

Table D indicates that U.S. tolerances and the Codex MRLs for acephate are compatible for cottonseed. The U.S. tolerances for eggs, animal tissues, milk, and soybeans have not been reassessed at this time because of outstanding data deficiencies. Incompatibility of the U.S. tolerances and Codex MRLs remain for Brussels sprouts, cauliflower, and lettuce (head) presumably because of differences in good agricultural practices.

DIETARY EXPOSURE ASSESSMENT

Data submitted are sufficient to perform a dietary exposure assessment. Anticipated residue and percent crop treated data were used in the assessment (see memo dated 5/5/98, F. Fort, D245426, and 8/18/99, F. Fort, D259659). Information used in this assessment are shown in the Table E and F. below.

Table 2. Summary of Acephate Anticipated Residues for Chronic Dietary Risk Assessment

Commodity	Recommended Tolerance (ppm) Acephate (Methamidophos)	Anticipated Residue (ppm)		Percent crop treated ^a
		Acephate	Methamidophos	Average
Acephate				
Beans (Succulent and Dry) fresh cooked canned	3(1)	0.05 0.05 0.013	0.16 0.05 0.03	2
Brussels sprouts	3(1)	0.01	0.05	11 ^c
Cauliflower	2(1)	0.01	0.13	11
Celery	10(1)	0.07	0.09	49
Cottonseed oil meal	0.5(0.1) 1	0.16 0.33	0.04 0.04	9
Cranberries	0.5(0.1)	0.01	0.1	34
Head Lettuce	10(1)	0.01	0.1	47
Macadamia Nuts	0.05	0.01	0.01	0.1 ^c
Mint tops and leaves oil	27(2) n/a ^b	9.5 0.01	2 2	31
Peanut nutmeat meal oil	0.2 n/a ^b n/a ^b	0.01 0.01 0.01	0.01 0.01 0.01	5
Peppers	4(1)	0.2	0.45(non-bell)/ 0.31(bell)	24
Soybean	1	1	1	0.1 ^c
Food handling Establishment Uses	0.02	0.008	n/a	100

a. Percent crop treated information has not been included in the anticipated residues.

b. No tolerances are required since data have shown that residues of acephate and methamidophos do not concentrate in these processed commodities.

c. Translated from cauliflower

d. BEAD reports 0.1% crop treated; however, 1 is used as a default.

e. Translated from almonds

Table 3. Summary of Data Used for Acephate and Methamidophos Used in Acute Monte Carlo Assessment

Commodity/ Food Form	Blended (B) Partially Blended (PB) Not Blended (NB)	% CT Estimated Max	Data Source PDP/FDA/FT	Anticipated Residue or Residue Data File	Anticipated Residue or Residue Data File
				Acephate	Methamidophos
Succulent Beans (all food forms)	PB	39/47 fresh/proc.	PDP (1994 - 1997)	Use directly - RDF 736NZ ^a , 1451Z ^a , 191 ½LOD ^a (Fresh) RDF ^b # 1 736NZ, 1260Z, 382 ½LOD (Processed) RDF #2	Use directly - RDF 714NZ, 1457Z, 217 ½LOD (Fresh) RDF #1 714NZ, 1266Z, 408 ½LOD (Processed) RDF #2
Dry Beans (all food forms)	B	5	FT	AR ^b = 0.005 x 0.05 (%CT) = 0.00025ppm	AR = 0.005 x 0.05 (%CT) = 0.00025ppm
Brussels sprouts (all food forms)	PB	21 ^c	FT	RDF = 38Z, 10NZ RDF #3	RDF = 23 Z, 6 NZ RDF #3
Cauliflower (all Food Forms except frozen:cooked)	NB	21	FDA (1993-1998)	RDF = 3 detects, 168Z, 42 ½ LOD RDF #4	RDF = 6 detects, 169Z, 39 ½ LOD RDF #4
Cauliflower (frozen:cooked)	PB			RDF = 3 detects, 168Z, 42 ½ LOD RDF #4	RDF = 6 detects, 169Z, 39 ½ LOD RDF #4
Celery (all food forms except canned, frozen, and celery juice)	NB	68	PDP (1994)	Decomposite RDF #5 1000NZ 780Z 659@1/2LOD	Decomposite RDF #5 1000NZ 1231Z 1615 @1/2LOD
Celery (canned, frozen, juice)	PB	68		Use directly-RDF ^c 73NZ ^d , 56Z ^d , 47 ½LOD ^d RDF #6	Use directly-RDF 45NZ, 56Z, 75 ½LOD RDF #6
Cottonseed meal	B	13	FT	AR = 0.07x (Processing Factor = 1.41) x 0.13 (%CT) =0.013	AR = 0.02x (Processing Factor=1.00) x 0.13 (%CT)=0.0026
Cottonseed (oil)	B	13	FT	AR = 0.07x (Processing Factor = 0.20) x 0.13 (%CT) =0.0018	AR = 0.02x (Processing Factor=1.00) x 0.13 (%CT)=0.0026

Commodity/ Food Form	Blended (B) Partially Blended (PB) Not Blended (NB)	% CT Estimated Max	Data Source PDP/FDA/FT	Anticipated Residue or Residue Data File	Anticipated Residue or Residue Data File
				Acephate	Methamidophos
Cranberries	PB	51	FT	RDF = 7Z, 7NZ RDF #7	RDF = 51 @0.005, 49Z RDF #7
Cranberry juice	PB		FT	RDF = 7Z, 7NZ (Processing Factor = 0.31) RDF #7	RDF = 51 @0.005, 49Z (Default Processing Factor) RDF #7
Head Lettuce	NB	63	PDP (1994)	Decomposite RDF #8 1000NZ 2846Z 3846 @ 1/2LOD	Decomposite RDF #8 1000NZ 6167Z 9499 @ 1/2LOD
Macadamia Nuts	PB	0.2 ^{d,f}	FT	RDF = 1 @0.01 99@0 RDF #9	RDF = 1 @0.01 99@0 RDF #9
Mint	B	42	FT	AR = 6.7 ppm x 0.42 (%CT) = 2.8	AR = 0.5 X 0.42 (%CT) = 0.21
Mint oil	B		FT	AR = 0.01 X 0.42 (%CT) = 0.0042	AR = 0.01 ppm X 0.42 (%CT) = 0.0042
Peanut (all food forms)	B	10	FT	AR = 0.01 X 0.10 (%CT) = 0.001	AR =0.01 X 0.10 (%CT) = 0.001
Peanut Processed Commodities	B			AR = 0.01 X 0.10 (%CT) = 0.001 x (processing factor =0.13)	AR =0.01 X 0.10 (%CT) = 0.001 x (default processing factor)
Pepper Bell,(all food forms except canned, frozen and cured	NB	48 ^e	FDA (1993-1998) FT for meth.	Decomposite RDF # 12 986NZ 4661Z 3317 @ 1/2LOD	RDF = 8NZ,9Z RDF # 11
Peppers ,Bell (canned, frozen, cured)	PB	48 ^e	FDA (1993-1998) FT for meth.	RDF = 174NZ, 841Z, 602@ 1/2LOD RDF #13	RDF =8NZ, 9Z RDF #11

Commodity/ Food Form	Blended (B) Partially Blended (PB) Not Blended (NB)	% CT Estimated Max	Data Source PDP/FDA/FT	Anticipated Residue or Residue Data File	Anticipated Residue or Residue Data File
				Accephate	Methamidophos
Pepper, Non Bell (all food forms except canned, frozen and cured)	NB	48 ^e	FDA (1993-1998) FT for meth.	Decomposite RDF # 10 990NZ 5720Z 4290 @1/2LOD	RDF = 4NZ, 4Z RDF #10
Peppers, Non-Bell (canned, frozen and cured)	PB	48 ^e	FDA (1993-1998) FT for meth.	RDF=141NZ, 836Z, 631@1/2LOD RDF # 11	RDF = 4NZ, 4Z RDF #10
Soybean	B	0.2 ^f	FT	AR = 0.055 X 0.01 (%CT) = 0.00055	AR = 0.008 X 0.01 (%CT) = 0.00008
Soybean processed commodities	B	0.2 ^f	FT	AR = 0.00055 x (processing factor = 0.54 (meal) or 0.007(oil))	AR = 0.008 X 0.01 (%CT) = 0.00008
a. NZ = nonzeroes; Z = zeroes, LOD = Limit of Detection b. RDF = Residue Distribution File; AR = Anticipated Residue c. Percent crop treated translated from cauliflower d. Percent crop treated translated from almonds e. Percent crop treated translated from bell peppers f. BEAD reported 0.2% crop treated; however, 1 is used as a default.					

AGENCY MEMORANDA RELEVANT TO REREGISTRATION

CB No.: None
Subject: PP#3F1375. Orthene on Cotton, Lettuce, and Soybeans. Amendment of 4/29/74
From: R. Schmitt
To: Coordination Branch and Toxicology Branch
Dated: 8/5/74
MRID(s): None

CBRS No.: None
Subject: OR-830040. Acephate on radishes grown for seed.
From: R. Loranger
To: W. Miller
Dated: 12/22/83
MRID(s): None

CB No.: None
Subject: PP#4E3028. Acephate on Macadamia Nuts. Amendment of 6/12/84.
From: L. Kutney
To: H. Jamerson
Dated: 8/7/84
MRID(s): 00138156

CB No.: None
Subject: Recalculation of the Acephate Tolerance in Milk
From: W. Hazel
To: K. Locke
Dated: 8/7/85
MRID(s): None

CB No.: None
Subject: EPA No. 239-2471. Methylthioacetate (MTA). Request for Determination of MTA Residues in/on Food Crops. Tox. Chem. No. 584D and 2A.
From: J. Whalan
To: C. Trichilo
Dated: 9/5/85
MRID(s): None

CB No.: None
Subject: Addendum to the Acephate Registration Standard; Toxicology Branch
Deferral Concerning Residues of an Acephate Impurity, Methylthioacetate,
in/on Food Items.
From: W. Hazel
To: W. Miller and E. Budd
Dated: 9/23/85
MRID(s): None

CB No.: 822
Subject: Chevron Chemical Company's Comments on the Draft Registration Standard
for Acephate Dated September 1985
From: W. Hazel
To: W. Miller
Dated: 5/20/86
MRID(s): None

CB No.: 3347
Subject: TN-870014. Acephate: 24(c) on Tobacco (Burley) in the State of Tennessee
From: W. Anthony
To: W. Miller/M. Mautz
Dated: 3/1/88
MRID(s): None

CB No.: 3943
Subject: 239-ELTR. New Acephate Formulation on Pasture and Rangeland.
From: L. Propst
To: W. Miller
Dated: 7/5/88
MRID(s): 40548301

CB No.: 4419
Subject: Acephate Dietary Exposure Assessment.
From: F. Suhre
To: J. Tice
Dated: 1/12/89
MRID(s): 40504801, 40504803-40504809

CB No.: 5304

Subject: FL890022; 24(c) Acephate (Orthene 75S) for Use on Non-Bearing Citrus.
From: F. Toghrol
To: W. Miller
Dated: 6/9/89
MRID(s): None

CB No.: 5953
Subject: WA890026; 24(c) Acephate (Orthene 75S) for Use on Sweet Grain Lupines to Control Lygus Bugs and Thrips.
From: F. Toghrol
To: W. Miller
Dated: 11/15/89
MRID(s): None

CB No.: 5839
Subject: Acephate/Methamidophos. Separation of Tolerances in Acephate Registration Standard.
From: J. Smith
To: W. Miller
Dated: 12/27/89
MRID(s): None

CB No.: 6350
Subject: Amended Registration for Orthene 90 S (Acephate) on Cotton In-Furrow Application.
From: F. Toghrol
To: W. Miller
Dated: 5/31/90
MRID(s): None

CB No.: 6492
Subject: Amended Registration for Acephate (Orthene 75S) on Peanut Seed Hopper Box Treatment.
From: F. Toghrol
To: W. Miller
Dated: 6/22/90
MRID(s): None

CB No.: 8492
DP Barcode: D165081

Subject: PR910002; Section 24(c) registration for Use of Acephate (Orthene® 75S) on Non-Bearing Coffee.
From: F. Toghrol
To: R. Forrest
Dated: 10/1/91
MRID(s): None

CBTS No.: 10512
DP Barcode: D182124
Subject: ID#059639-TL: Registration for Orthene 15G (Granular) (Acephate) on Cotton: In-Furrow Application.
From: R. Lascola
To: M. Mautz/R. Forrest
Dated: 12/28/92
MRID(s): 42450501

CBTS No.: 10949
DP Barcode: D185104
Subject: ID# VA920003. Acephate (Orthene) on Peanuts. Special Local Need [24(c)] Use. Response to CBTS Review of 6/25/92.
From: R. Lascola
To: M. Mautz/ R. Forrest
Dated: 1/13/93
MRID(s): None

CBTS No.: 11597
DP Barcode: D189359
Subject: ID# AZ790025: Acephate (Orthene 75S) on Bermudagrass Grown for Seed. Special Local Need [24(c)] Exemption for the State of Arizona.
From: R. Lascola
To: M. Mautz/ R. Forrest
Dated: 4/2/93
MRID(s): None

CBTS No.: 11614
DP Barcode: D189420
Subject: NM-93-0001: Special Local Need Label [24(c)] for Acephate (Payload 15) for Use in New Mexico in/on Peppers.
From: J. Garbus

To: R. Forrest/M.Mautz
Dated: 5/3/93
MRID(s): None

CBTS No.: 12165
DP Barcode: D192892
Subject: NM-93-0002: Special Local Need Label [24(c)] for Acephate (Payload 15 Granular) for Use in New Mexico in/on Peanuts.
From: J. Garbus
To: R. Forrest/M.Mautz
Dated: 7/14/93
MRID(s): None

CBTS No.: 12298
DP Barcode: D193709
Subject: PA930004. Section 24(c) Special Local Need Registration for Acephate (Orthene 75S Soluble Powder) in or on Greenhouse Grown Pre-Nuclear Potatoes in the State of Pennsylvania.
From: D. Davis
To: M. Mautz/R.Forrest
Dated: 8/6/93
MRID(s): None

CBRS No.: None
DP Barcode: None
Subject: Response to the Acephate Reregistration Standard: Memo of Meeting Held on 5/11/94.
From: R. Perfetti
To: L. Rossi
Dated: 5/12/94
MRID(s): None

CBTS No.: 13853
DP Barcode: D204142
Subject: OR930013. Special Local Need [24(c)] Registration for Application of Acephate (Orthene 75S) to Carrots Grown for Seed. Determination of Food/Non-Food Use.
From: G. Herndon
To: R. Forrest/B. Edwards
Dated: 7/12/94

MRID(s): None

CBRS No.: 14719

DP Barcode: D209342

Subject: Reregistration of Acephate. 90-Day Response to the Reregistration DCI
Issued 3/1/94.

From: P. Deschamp

To: R. Richards

Dated: 12/22/94

MRID(s): None

CBTS No.: 15111

DP Barcode: D212168

Subject: Evaluation of Washington State Department of Agriculture Request for
Nonfood/Nonfeed Status for Small-Seeded Vegetable Seed Crops.

From: B. Schneider and R. Loranger

To: S. Johnson

Dated: 2/16/95

MRID(s): None

CBTS No.: 14272

DP Barcode: D206813

Subject: TX940001. Special Local Need [24(c)] -Revised Labeling for Sidedress
Application of Acephate (Orthene 90 S) on Cotton.

From: G. Otakie

To: R. Forrest/M.Mautz

Dated: 3/7/95

MRID(s): None

CBRS No.: 16078
DP Barcode: D210615
Subject: Acephate. List A. CBRS Comments on Proposed Protocol for Pyrolysis Study.
From: D. Hrdy
To: L. Schnaubelt/R. Richards
Dated: 10/31/95
MRID(s): None

CBTS No.: 16420
DP Barcode: D220486
Subject: PP#3E04163 - Acephate on Leaf Lettuce. Amendment Dated 9/13/95.
From: N. Dodd
To: H. Jamerson and D. McCall
Dated: 4/4/96
MRID(s): 43820501

CB No.: None
DP Barcode: D226099
Subject: AL940001 - Special Local Need [24(c)]. Registration for Application of Acephate (Orthene 75S) in Peanut Seed Hopper Boxes. Comments on 3/5/96 Resubmission.
From: M. J. Nelson
To: M. Mautz/R. Forrest
Dated: 5/29/96
MRID(s): None

CB No.: None
DP Barcode: D227940
Subject: ID# OR930014 Section 24(c) Special Local Need Registration for use of Acephate on Carrots Grown for Seed in Oregon.
From: G. J. Herndon
To: M. Mautz/K. Whitby
Dated: 6/27/96
MRID(s): None

CB Nos.: 17188, 17189, 17190, 17191, 17427, and 17429
DP Barcode: D225794, D225795, D225796, D225786, D228007, and D227969
Subject: [Acephate. Metabolism of acephate in beans, cotton, lettuce, lactating goats, and laying hens. Radiovalidation data for beans, cotton, lettuce, milk and liver, and eggs and muscle. Field trial data for mint hay. Processing study for peanuts.]
From: F. Fort
To: P. Deschamp
Dated: 4/10/97
MRID(s): 43971602-43971611, 44037801-44037804

DP Barcode: D254624
Subject: Acephate. Magnitude of the Residue in/on Soybean Processed Fractions
From: F. Fort
To: Monica Alvarez
Dated: 8/9/99
MRID(s): 44777002

DP Barcode: D255614, D254635, D254638
Subject: Acephate. Magnitude of the residue in Cotton treated at Different Growth Stages
From: F. Fort
To: Monica Alvarez
Dated: 8/9/99
MRID(s): 44777001, 44777004, 44791202, 44777003

MASTER RECORD IDENTIFICATION NUMBERS

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